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ABSTRACT

The fields of health and higher education must bring a wide scope and diversity of approach to the development of a model for a regional health university. The objective of such a university would be that the training of health personnel, research work, health education, preventive medicine, and health care delivery can be adapted to the health requirements of regional communities. Health is a relative and subjective concept, dependent on the level of socioeconomic development and the capacity of the individual and community to tolerate disease or infirmity. Industrialization requires that greater allowance be made for the psychological and social aspects of health. The optimum operational unit for health care is the region. The regional health university represents an extended function for higher and would give higher education institutions a greater and more responsible part to play in promoting the social, economic, and cultural development of their particular region. (MSE)

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HEALTH, HIGHER EDUCATION AND THE COMMUNITY

Towards a Regional Health University

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SANTÉ, ENSEIGNEMENT SUPÉRIEUR
ET COLLECTIVITÉ
Vers une université régionale de santé

Centre for Educational Research and Innovation (CERI)

HEALTH, HIGHER EDUCATION AND THE COMMUNITY

Towards a Regional Health University

Report of an International Conference
at OECD
Paris, 15th-18th December, 1975

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT
1977

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The main objectives of the Centre are as follows:

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CONTENTS

Preface
by Mr. James R. Gass,
Director of the Centre for Educational Research and Innovation 7

Address
by Mr. Emile van Lennep,
Secretary-General of the OECD 11

Address
by Madame Simone Veil,
Minister of Public Health, France 13

Address
by Mr. Jean-Louis Quermonne,
Director-General for Higher Education and Research, France 19

An Overview of the Problems 22

General Conclusions of the Conference and Reports of Working Groups 29

Part One

HIGHER EDUCATION AND THE COMMUNITY

I. APPROACHES TO THE ISSUE 49

1. The Integration of Higher Educational Institutions with their Social, Economic and Cultural Environment,
by G. Berger, Director of the Department of Educational Sciences, University of Paris VIII, France 51

2. Reflections on the Relationships between the University and the Local and Regional Authorities,
by A. M. Baeten, Mayor of Maastricht, The Netherlands 72

II. THE INTEGRATION OF HIGHER EDUCATIONAL INSTITUTIONS WITH THEIR COMMUNITIES:
Discussion by a panel of experts, 15th December, 1975 77

Part Two

HEALTH AND SOCIETY

I. APPROACHES TO THE ISSUE 87

1. The Ambiguities of the Health Concept in Industrialized Societies,
by P. Cornillot, Professor, Dean of the Experimental Faculty of Medicine and Human Biology, University of Paris XIII, France 89

2. Health, Illness and Society,
by F. Basaglia, Professor, Director of the Provincial Psychiatric Hospital of Trieste, Italy 113

II. HEALTH AND SOCIETY:
Discussion by a panel of experts, 16th December, 1975 ... 129

Part Three

THE REGIONAL HEALTH UNIVERSITY: CONCEPT AND MODELS

I. THE UNIVERSITY OF THE HEALTH SCIENCES:
Some Notes on a Conceptual Model for Optimizing Education in the Health Professions,
by E. D. Pellegrino, Professor, Chairman of the Board of Directors, Yale-New Haven Medical Center, United States 139

II. THE REGIONAL HEALTH UNIVERSITY:
A Model of Regional Integration and Co-ordination of Education, Health Care Delivery and Organisation of the Health System,
by P. Cornillot, Professor, Dean of the Experimental Faculty of Medicine and Human Biology, University of Paris XIII, France 161

Part Four

TEN EXPERIMENTS IN EDUCATION OF THE HEALTH PROFESSIONS IN THE CONTEXT OF REGIONAL HEALTH CARE

I. INTRODUCTORY ANALYSIS 189

II. CASE STUDIES

The Faculty of Health Sciences,
McMaster University, Canada,
by J. F. Mustard, Dean 199

The University of Kuopio, Finland,
by O. Hänninen, Vice-Rector 211

The experimental Unit of Teaching and Research in Medicine and Human Biology, Bobigny, University of Paris XIII, France,
by P. Cornillot, Dean 231

The University Centre for Health Sciences in the Negev, the Ben Gurion University of the Negev, Israel,
by M. Prywes, President 243

The Faculty of Medicine at Maastricht, State University of Limburg, The Netherlands,
by H. A. Tiddens, Rector 257

The School of Medicine at Tromsø, University of Tromsø, Norway,
by A. Nordøy, Dean 263

The University of Hacettepe, Turkey,
by D. Taner, Dean 273

The University of Southampton Medical School, United Kingdom,
by E. D. Acheson, Dean 285

The University of Cincinnati Medical Center, University of Cincinnati, United States,
by S. B. Troup, Director 301

The Health Sciences Center at Stony Brook, State University of New York at Stony Brook, United States,
by D. Fox, Assistant Vice-President 315

ANNEXES

1. Conference Agenda 333
2. List of Participants 337
3. List of other publications and documents in the field of education of the health professions 349

9

PREFACE

The title alone of this report indicates the scope and diversity of approach required in the fields of health and higher education in order to develop a model for a "Regional Health University" such that the training of health personnel, research work, health education, preventive medicine and the delivery of health care might continuously be adapted to the health requirements of regional communities.

First, an analysis of the health requirements of a given population should be based on a clear idea of what is meant by health. Part of the report deals with this question and concludes that health is a relative and subjective concept, one which steadily evolves and depends on a series of factors, the most important being the level of socio-economic development and the capacity of the individual and the community to tolerate disease or infirmity.

There can be no doubt that the development of industrialised societies has created a new form of morbidity and mortality, one leading to the rapid growth of a new category of expenditure by the community and requiring a complex approach, in that greater allowance must be made for the psychological and social aspects of health.

The report thus concludes that the supply of health must be dynamically balanced against the demand, and that the optimum operational unit would be the "region", the object being a better quality and more accessible type of health care, as well as the control of health expenditure.

The report describes in some detail the structure which would enable such a balance to be achieved on a regional scale. Thus the Regional Health University is seen as a post-secondary complex which would combine, as necessary, various preparatory courses for training doctors and allied health personnel in the traditional way with new forms of training which would supplement the former and enable all facets of the human personality to be dealt with.

The invariably regional role of such a post-secondary complex - while the regional dimension would of course not exclude but instead complement national requirements - must be to undertake research, information, health education and continuing training activities, as well as co-ordinate the services responsible for health and the delivery of health care.

It will be realised how far these tasks of the Regional Health University exceed the traditional objectives of faculties of medicine and of the various establishments which train health personnel.

These further extended functions of higher education are now the subject of new studies by CERI. A first conclusion which seems clearly to emerge is the need to give higher educational institutions a greater and more responsible part to play in promoting the social, economic and cultural development of their particular region. The present report roughly outlines a few ideas on this subject and its particular implications for health policy.

Health, as broadly defined in the report, is becoming one of the most important socio-economic sectors in modern society. Medicine, society and the economy must unite in order that the interests of health can better be served, as a natural consequence of the fact that the welfare of the individual today requires aims to be reconciled with means.

This report is the fruit of the efforts of many eminent authorities who are working for the future health of modern society. In thanking them all for their contributions, however, tribute must be paid to the special help given by Dr. Pierre Cornillot, who advised the Secretariat of the Centre throughout work.

Some of the papers will perhaps cause surprise because of the liberties which their authors take with tradition, custom and conventions. To our mind such an approach is needed for attempting to state certain problems, throw light on certain obscure areas and stimulate analysis and discussion, but in doing this the authors do not necessarily reflect the views of the Organisation or of Member countries.

J.R. GASS
Director
Centre for Educational Research
and Innovation

ADDRESSES GIVEN AT THE OPENING AND THE CLOSING OF THE CONFERENCE

ADDRESS

by

Mr. Emile van Lennep,
Secretary-General of the Organisation for Economic
Co-operation and Development

Madame Minister, Mr. Chairman, Ladies and Gentlemen,

It is indeed a great honour for me, Madame Minister, to welcome you at the Organisation for Economic Co-operation and Development on the occasion of the Conference on the Regional Health University which has been organised by the OECD's Centre for Educational Research and Innovation. The OECD, as an economic-oriented body, is naturally greatly concerned by the rising costs in such an important sector as that of health. Indeed, our Secretariat has been analysing trends in public expenditures with respect to health, and its calculations already show this area to be one of the fastest-growing items of overall government expenses. These Secretariat estimates show that between 1962 and 1975 in the OECD countries public expenditures on health (including outlays for administration, social security and illness) grew at a rate of 60% more rapidly than national income. Yet, as we all know, it is firmly held in certain quarters that average individual health in our industrialized countries is far from improving, and in some ways is even getting worse, because of the rapid rise of mortality and morbidity linked to economic development.

The work which the Centre for Educational Research and Innovation has been doing since 1972 on education and training for the various health professions indicates that through better training adapted to requirements, better health education and better prevention organised at regional level, costs in the health sector could be stabilized to a significant extent and the health of each individual improved. Current experiments in education and training for the health professions in the context of regional health care, which are presented at this Conference, would seem to offer possible institutional models for achieving both these objectives. These experimental approaches could, we hope, provide the bases on which broader and more global developments could take place in the future in the Member countries.

One of the functions of the Centre for Educational Research and Innovation is to promote new experiments, to analyse and evaluate them.

Your presence among us, Madame Minister, is an encouragement to persevere in the study and definition of these regional health universities, whose role in future years may prove of the utmost importance to human welfare in OECD countries.

ADDRESS

by

Madame Simone Veil

Minister of Public Health, France

Mr. Chairman, Mr. Secretary-General, Ladies and Gentlemen,

It was with great pleasure that I agreed to take the floor here today, as the subject of this Conference - the Regional Health University - I consider to be especially significant. I await with much interest the conclusions which the OECD's Centre for Educational Innovation and Research will be able to draw by comparing the various national experiments conducted in this field.

The problem of training health personnel is one of the keys of health policy, and I am happy that such an economics-oriented organisation as the OECD should have tackled the question and thus promoted a continuing study of Member countries' educational systems and of innovations which can better enable them to meet their health requirements.

I realize only too well how difficult the problems of training for the health professions are for everyone, and I am gratified that the Centre should have tried to assess the role of training in making the health system work.

I am particularly interested in your attempt to resolve the ambiguities attached to the health concept. This means grappling with a fundamental problem, since today not only is the cost of the health system but its 'performance' being violently challenged, and even sometimes roundly attacked.

You have thus evolved a distinction, one which seems fundamental, between types of illness rooted in man's very nature - which you term natural morbidity - and those which must be related to the growth and organisation of communities - or morbidity related to economic development.

In this connection one undeniable fact you bring out is that owing to medical progress mortality and natural morbidity have considerably decreased, but that mortality and morbidity related to community development and organisation instead show a tendency to increase, with the result that gains achieved in the first case are partially offset by a lowered average state of health due to growth of our societies.

The essential merit of this distinction between diseases with a natural origin and those due to the way our communities are organised and developed is that responsibilities can be assessed and choices more easily made. Prevention takes on very different aspects, depending on whether the disease is natural or artificial. In the case of so-called natural morbidity and mortality, preventive action is of a directly medical and sanitary character, whereas if disease is artificial such preventive action involves responsibilities extending beyond the purely health area into entire sectors of our social and economic organisation. The health system must not be compelled to take over disease situations without being able to intervene at the preventive level.

The most telling example that can be mentioned in France is the decrease in traffic accidents owing to various safety measures, in particular the limits placed on the speed of cars, and the implications this has had regarding the frequency and seriousness of injuries calling for accident surgery and neurosurgery.

Generally speaking such concepts as relative health, individual and collective tolerance and intolerance, the importance you have attached to prevention, health care teams, health care delivery systems and certain new research aspects strike me as significant contributions of this Conference to the complex problems of health.

Moreover, the distinction you make between two types of morbidity - natural morbidity and morbidity linked to economic development - has the advantage of clearly showing that much of preventive action lies outside the area of health care and should be made the responsibility not of the professionals but calls for organisation of the socio-economic system and a clear awareness of the unduly heavy workload which the health system may sometimes be asked to carry. From this standpoint prevention appears to cover a much wider field than purely preventive medicine. It suggests that the responsibility of each and everyone conflicts with our idea of fate, based on the conviction that we are powerless to alter its course.

It was only natural that an organisation specializing in economic studies should pay increasing attention to a socio-economic sector as important as health.

Perhaps one should agree that methods of analysis so effectively used in other economic sectors run up against specific difficulties where health matters are concerned. Rationalization is not easy, and the distinctions which must be made in assessing the value of a human being's life or the significance of his sufferings are too subtle for economists alone to decide what major investment and organisational decisions a country must make in dealing with its health and care system. Only joint action by economists, sociologists, psychologists and health professionals can ultimately lead to both a humane and technical formulation of health problems and thus facilitate the taking of necessary decisions by the responsible authorities.

It is on this account that, after first analysing health needs, you have tried to determine how health personnel might be trained in such a way as closely to co-ordinate training, research and the practice of prevention as well as the delivery of health care. The Regional Health University model you have adopted is one which you believe can promote permanent co-ordination between specialists, the bodies responsible for financing and operating the health system and beneficiaries under the system.

What should be developed with regard to the health professions is team-work training. In order to prevent the responsibilities of each profession from being wrongly understood and the health professions from being unduly hierarchised and compartmented, you therefore propose that those involving shorter and longer periods of training work together, that psychology, economics and technology majors join forces, and that welfare officers and nursing staff team up with doctors and pharmacists.

It is important to urge the need for decompartmentation and recombination, a feature now marking action promoted by the health professions. Similarly, a concept which must be stressed is that the health professions not be restricted to the care professions.

Another aspect of the Regional Health University model which I also feel is significant carries the seeds of a fundamental innovation in the higher-education system. At your first plenary session a subject you discussed was the responsible role of higher-education institutions regarding social, economic and cultural development in their region of establishment. Clearly the professional and socio-economic sector of health is a subject ideally lending itself to concerted action by the community and the university in the broad sense. I can but support the idea that such a combined form of post-secondary training in the health professions should more decisively participate in providing health care and in co-ordinating the various care facilities for the region's benefit. But to confine relationships between care delivery and the training system within hospital walls may well, as has often been noted, promote such types of professional training as to improve technical performance at the expense of the many aspects of non-hospital medicine, which in most educational institutions does not enjoy the status it rightly deserves. No doubt this is a negative effect which could be corrected by more radically breaking down the divisions between the care facilities which future health professionals have access to during their training. The use, through concerted action at regional level, of such care facilities as out-patients' departments of private and public hospitals, offices of general practitioners, etc. , would enable students who will later enter the medical and paramedical professions to acquire a practical knowledge of the different sides of health and health care.

A number of countries, I also realize, have already conducted worthwhile experiments in this field, one offering vast opportunities for research and teaching innovations so that present training systems can be adapted to these new objectives.

One final aspect strikes me as characteristic of the Regional Health University and as regards the promotion of relevant specific action. Facilities for training, research and care co-ordination on a regional scale should make it possible to undertake and carry through research projects for continuously defining the status of the health system and identifying action needed to correct the most glaring anomalies found at regional level, or to associate the region with health projects undertaken at national level.

It seems to me that no such facility can attain its real dimension until it has succeeded, jointly with the practical bodies concerned, in organising health training and education for the region's population. Action of this type, which should aim to help everyone better assess his role and responsibilities with regard to his own health and that of others, is part of a real, long-term prevention policy, alone capable of radically correcting certain serious anomalies in the health system's operation.

The structure proposed is a university structure. Yet the term university must not be taken in the conventional sense, since this would suggest that such a heavy workload could be taken over by a higher education institution of the type commonly met with in our countries. What is meant, I think, is that such a facility for post-secondary training, research, care co-ordination and health education at regional scale must necessarily take over and combine the activities of many organisations now responsible for health care delivery or for training health professionals.

Statutorily this "university" should bring together representatives of regional and national public authority, representatives of local government, responsible officials of insurance and social welfare organisations, representatives of different categories of health professionals, heads of health care establishments, research and training specialists and users of the health system.

To be given effect such a facility calls for broad concerted action at regional and national level, and as between the various ministries and public agencies concerned.

These preliminaries are essential and were probably at the root of the different experiments described. In this connection I note that such experiments are being developed in countries and regions whose administrative and socio-economic structures largely differ but where objectives are manifestly identical from one country to another. My conclusion is that, as between individual experiments and individual countries, the over-all search for a solution to co-ordinate health care and training appears invariably to have converged on the Regional Health University model.

It would thus appear that such a model capable of meeting the many requirements we mentioned can be developed regardless of the health care and training system used, subject of course to certain adjustments.

Mr. Chairman, Mr. Secretary-General, National Delegates, I am gratified that one of the objectives of the Centre for Educational Research and Innovation of the OECD should be to inventory the experiments made by Member countries, analyse them and promote their development.

You may be sure that I intend to follow with interest the course of such experiments in the regional co-ordination of training, health care and health education. In my view, it is important to develop or promote similar experiments in our countries and to encourage their permanent confrontation.

ADDRESS

by

Mr. Jean-Louis Quermonne
Director-General for Higher Education and Research, France

Mr. Chairman, Mr. Director, Ladies and Gentlemen,

We are gathered here today at the instigation of the Organisation for Economic Co-operation and Development and especially its Centre for Educational Research and Innovation.

At the request of OECD Member countries CERI has undertaken a research programme on new structures for universities. In our own countries, and for the past fifteen years or so throughout the world, post-secondary education has been facing a critical period of growth, with the result that governments, socio-economic groups and even the universities are weighing the objectives which should be assigned to education and are reflecting on appropriate structures. In view of the purpose of this programme, as an official representative of French higher education may I wish you every success in conducting these proceedings during the three days you will be here together?

Mr. Jean-Pierre Soisson, Secretary of State for Universities in the French Government, would have liked to have expressed this wish in person, but he is now in Togo attending the General Conference of the Association of Universities, which embraces institutions that are wholly or partly French-speaking. He asked me to say how sorry he was not be be with you, how valuable he considered the discussions in CERI to be, and he sends his greetings to all those who are contributing so significantly to the meeting.

In studying a system of higher education, preference is usually given to a short-term approach. Whether it is a question of increasing university enrolments, fast-growing knowledge, or such problems as employment opportunities and changes in teaching methods, as a rule joint thinking is governed by immediate requirements, while such fundamental issues as the relationship of knowledge, research and education to society take a back seat. The approach at this conference is different and is original on two counts. To begin with a conceptual form of analysis has been adopted. You have thus been asked to determine what form is now and might later be taken by specific structures of the university system in the light of its three recognized functions, that is, training directed towards meeting individual needs, research designed for producing new knowledge and action enabling the university system to be of special service to society, more specifically to the group of communities around it. How do these three functions conflict and mesh with each other? In what way is the human community, whether from a local, regional, national or international standpoint, linked to the university system? How does the community express its requirements? How does the university respond? To sum up, how can higher education help in analysing the community's problems and formulating possible solutions? This is the first general question you are asked to reflect upon.

The second original feature of this Conference is that, after thus placing the problem in its general context, the sponsors propose that a specific example be considered - the role of the university in health education. Many experiments have taken place in a number of Member countries, as, for example, by Professor Pierre Cornillot of the University of Paris-Nord at the Bobigny Experimental Medical and Biological Centre, and these give a concrete dimension to our thinking. By adopting this approach, cases reflecting actual experience can be studied, which, I think, is the keynote of the discussion just opened by Mr. Gass.

Theoretical study by CERI experts and their analysis of the experiments I have just mentioned led to their considering how close community relationships with the universities should be. As a result they propose that you deal with two complementary questions. The first is to determine the geographical framework best promoting effective community relationships with higher education. They have adopted a regional framework, without however committing themselves to any rigid definition, since a university's action knows no boundaries. Sometimes it may little extend beyond a city's limits or only over a particular district, while at other times it may be nearly continental in scope, covering all of Western Europe or the Mediterranean Basin. The second suggestion is to define the university structures which seem best able to promote the necessary co-ordination between the university and society. Here the experts have inclined towards the concept of problem-oriented universities, that is, towards post-secondary institutions organised no longer around a single discipline or set of disciplines but in terms of some particular area, such as health, the environment, production or education. But once again, they have had the good sense and caution to avoid any unrealistic suggestions and they stress the need to maintain, side by side with these thematically organised institutions, monodisciplinary educational and research establishments promoting the development of each special subject.

These two propositions - the regional dimension taken in the broadest sense and the thematic university concretely applied to health problems - are thus to serve as a basis for your discussions. Many questions are of course bound to be raised, and I can already think of three. First, the university must continue to play both its national role (since even today the national framework is usually that of the labour market) and its international role, for no scientific research is worthwhile unless it has an international dimension. Next, research should not merely serve to meet a community's immediate requirements. Lastly, individual requirements may not always match community requirements, yet the university must satisfy them. Further questions will be mooted, which is what I know your rapporteurs and all those who prepared the Conference propose should happen. Their aim has been to study the basic problems of higher education, and to make use of the many experiments conducted by universities and regional communities in the health field. It is these experiments that are to be the subject of the impending three days of reflection and debate, and it is on the strength of them that they have put forward a number of ideas remarkable for their soundness and originality. Your work during these three days, the study of experience in the field, and the international nature of these exchanges are the factors which will best quicken reflection on a subject whose fundamental character it is impossible to overstress. In closing, may I venture the hope that as a result of your discussions in depth, thereby benefiting the research programme, CERI will come forward with conclusions better enabling Member governments to control the future of higher education? For my part this is not just a hope but a certainty.

AN OVERVIEW OF THE PROBLEMS*

The Centre for Educational Research and Innovation (CERI) has been conducting work on the model of a Regional Health University since 1972 in an attempt to find a solution to some of the problems being experienced currently by post-secondary education systems on the one hand and health systems on the other. The Conference of 15th-18th December, 1975 was its culminating point.

The basis of this model was CERI work (also culminating in a Conference in 1970) that concentrated on interdisciplinary teaching and research in universities. ** In the course of this it was found that the need to support the movement of science and research towards unity, the need to bridge the gap between professional activities and related training courses, the need to bear in mind the students' revolt against "fragmentary learning" and their desire to return to the real world, and lastly the need to meet the requirements of the regional or national community should all encourage the more dynamic higher education institutions to develop interdisciplinary teaching and research programmes, setting up interdisciplinary problem-oriented institutes alongside the monodisciplinary departments, faculties or schools. It is not therefore a question, as some traditionalists have tried to affirm, of weakening monodisciplinary education and research and turning knowledge back from its true purpose; rather it is an attempt to reconcile so-called fundamental research with so-called applied research, basic training with vocational training, theory with practice, initial training with continuous training, the prospective and critical function of higher education with its implications in the immediate analysis of the community's needs and the promotion of solutions likely to satisfy them.

The flexibility required in order to give students better guidance, to develop continuing recurrent education, to organise team education, to achieve viability in human and material resources, implies moreover that institutes providing short training cycles will have to be grouped together as will those providing long training cycles. We thus arrive at the interdisciplinary approach to post-secondary education or problem-oriented complexes which has been at the core of CERI's examination of the fields of Environment and Health. *

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* This paper was based on a document prepared for the Conference by Pierre Duguet of the CERI Secretariat.

** See: "Interdisciplinarity: Problems of teaching and research in Universities", CERI/OECD, Paris, 1972.

To plead for the development of a University of the Environment or of a Health University means advocating a post-secondary complex, which may or may not be attached to a parent university, oriented towards training and research in environmental matters of health - both subjects being taken in their widest sense. The University of Wisconsin Green-Bay in the United States, with over 5,000 students and completely oriented towards the environment, is an independent university; on the other hand the "Centre Supérieur de l'Aménagement" in Tours, France, with 500 students, is attached to the François Rabelais University which has 12,000 students. In the same way, the Hacettepe University in Turkey is an independent university with 8,000 students completely oriented towards health, while the School of Medicine in Southampton (England) with 400 students is attached to Southampton University which has 4,600 students.

Whether or not the post-secondary complex is attached to a parent university obviously depends on the size of the subject or on the number of students, but it is basically a question of the presence or absence of the necessary monodisciplinary departments in the chosen field of study. In this way "Health" implies the presence of a large number of monodisciplinary departments covering both the human and natural sciences. Several models are then possible: either there is the university totally oriented towards health problems comprising the necessary monodisciplinary departments for studying health (could such a university afford, for example, the luxury of even a modest department of economics? Would research in the various departments be completely health-oriented?); or the university could be completely oriented towards health problems but draw on another university for the monodisciplinary departments it lacked, in common with one or more subject-oriented institutes located nearby. Or again, a health school, centre or faculty could be attached to a parent university which would provide it with the departments it needed.

The interdisciplinary subject-oriented "universities" can thus be developed following one of these three models (or a combination of them) taking due account of the structures existing in a given country. Any discussion of the choice between a problem-oriented university or a problem-oriented institute (attached to, or within a university) can only be sterile in this first stage during which the aim is to provide some form of institutional framework for greater, more effective participation in solving the problems faced by the community.

Up to the present, although institutions of higher education, by reason of their very nature, have always had a vocation to serve

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* See "Environmental Education at University Level: Trends and Data", CERI/OECD Paris, 1973, and Environmental Problems and Higher Education "CERI/OECD, Paris, 1976,

the community (if only by providing it with the qualified professionals it needs) it must be admitted that they have rarely played a role commensurate with their resources in the community's economic, social and cultural development. Of course there are exceptions to this generalization; it is probably more true of Europe than of North America, although it is more applicable to some universities than to other post-secondary institutions, but by and large it may be said to reflect the desire of one section of higher education to isolate itself for critical meditation, away from short-term problems of the socio-economic type. This behaviour is very often dictated by a conservative attitude towards acquired privileges, a desire not to question a self-reproducing system or by poor assessment of the problems.

But once higher education is considered as a sub-system in society it cannot adopt a dualistic attitude which may or may not lead it to participate in the analysis of the community's problems, or for example to oppose fundamental and applied research. But beyond these aspects there remains the question of whether higher education, with its organisation and its division of knowledge, would be capable (if it wished) of meeting the community's manifest or latent needs, which are generally interdisciplinary.

Only a post-secondary complex combining monodisciplinary departments and interdisciplinary subject-oriented institutes can provide an answer to this question. The choice of subjects will depend first upon the area of participation and intervention of such a complex. The area might be a section of a metropolis, a sub-urban grouping, an average town or even a province, the choice depending on the geography, the characteristics of the population and the politico-administrative structures of the country concerned. Some subjects will be of national or even international importance and will thus be the subject of training and research at these levels. But it is clear that the responsibility of the higher education institutions in the context of regional development implies the choice of one or more subjects which are, in the first instance, of interest to the region under consideration.

Secondly, the development of higher education has basically been linked to its teaching function (and particularly so with the recent increase in student numbers) to the detriment of its research aspects and what may be termed its "action" mission - a word that is less ambiguous than "service". Only a new osmosis between higher education and the regional community can re-establish the balance and essential interrelation between these three fundamental purposes.

From the opposite viewpoint, the regional community has resources that could reciprocally benefit higher education. The use of practising professionals as teachers, or of professional premises, are significant examples. Conversely, higher education must place its resources at the disposal of the community. Again, it is through this new osmosis between higher education and the regional community that satisfactory solutions will be found to such questions as financing the development of practical training and the integration of theory and practice, recurrent education, recycling or preparation for employment.

It will thus be understood that studies on interdisciplinary have led CERI to observe that there is a need to develop these "post-secondary interdisciplinary subject-oriented complexes". Secondly, specific consideration of the fields of environment and health have confirmed the fact that these complexes must function at regional level.

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The Regional Health University therefore appears as a post-secondary complex which may or may not be attached to a parent university. It brings together long- and short-training cycles for the "health" professions (not being limited to traditional "health care" training), exercises direct responsibility in health information and education, in the organisation of preventive methods and health care delivery at the level of the region concerned, and develops medico-social research in addition to bio-medical research and operational research into public health.

Grouping together long and short health training cycles should make it possible to ensure better co-ordination of aims and of pedagogical resources between the different health professions. It should also lead to better guidance for students taking account of their theoretical and practical abilities, their horizontal and vertical mobility at all ages (recurrent education). The recognition of common cores of theoretical and practical studies at differing levels should also follow with a view to developing the common language and complementary facilities needed for the activities of health care teams working both inside and outside hospitals, as well as reducing training costs through more efficient utilization of staff and equipment resources.

At regional level, the participation of such a post-secondary health complex in the provision of health care is nothing new; but it will be an innovation in some countries if practical training is given in some of the institutions caring for the community (general practice offices, public and private hospitals, dispensaries, schools, factories, etc.) and no longer just in the university hospital which is usually highly specialized. In addition, the organisation of preventive medicine, health education or public health research for specific socio-economic groups in the region concerned would be one of the new roles of higher education in regional development.

All these points are elaborated upon in Part Three of the present Report. Part Four contains accounts of ten experiments in training for the health professions in the context of regional health care. As a common framework has been adopted for their analysis, the reader will be able to see that these experiments are more or less developed with regard to the regrouping of health care and health training, that they play a more or less important role in the region concerned and that these regions vary considerably from one country to another, both in area and population (from 300,000 to 2,500,000).

Lastly, these experiments have been mounted in existing post-secondary institutions or have been created ab ovo. They constitute either universities which are totally health-oriented or simply university schools or faculties; they are situated in countries with widely different cultures, socio-political structures, administrative organisation, health care systems and training methods. One could see in this a common desire for innovation in training for the health professions and in particular a need to establish a permanent link between this training and the population's health and no longer just their needs for specific forms of care.

This implies there must be prior consideration and continuing research into the very notion of health and its evolution. One can hardly fail to see the consequences of the reflections reported in Part Two as concerns health policy. It is made clear there that health, far from being an absolute concept, is completely subjective and relative, that it depends on the level of economic development, the level of education, the level of income, the level of preventive medicine and health care and the level of tolerance or intolerance in a given society.

It will also be seen that the concepts of "health and illness", of "normal and abnormal" depend on the socio-political organisation and power structures in the countries concerned. The most interesting phenomenon explicitly stated in this second part is the relative stagnation of the average health level in industrialized countries during the last 20 years. In fact, while natural morbidity and mortality (endemic illnesses and epidemics, etc.) have sharply or regularly decreased, morbidity or mortality linked to economic development (traffic accidents, industrial accidents, over-nutrition, cardiovascular diseases, mental illness, etc.) are sharply increasing. Clearly prevention mechanisms will have to be set up in the appropriate socio-economic structures to retard the development of these morbidity and mortality rates. A Regional Health University will have to determine the causes through adequate research and anticipate them, making full information available to the authorities responsible for taking decisions in various sectors such as town planning, transport, leisure and education.

By definition, the Regional Health University trains future professionals to approach the question of human health in all its physical, mental and social aspects and to understand the complex interrelationships between all three of them. It must be said that scientific training for health personnel hitherto has only been of benefit on the biological side in spite of the relatively recent attempts to increase the proportion devoted to the social sciences.

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Participants at the Regional Health University Conference were on the whole most attracted by the conceptual approaches suggested concerning first the integration of higher education institutions in their social, economic and cultural environment, secondly, the ambiguities of the health concept in industrialized societies and lastly the models of Regional Health Universities. There was also opportunity to analyse and compare ten experiments in training for the health professions in the regional context of health care all carried out in accordance with the main guidelines of the Regional Health University.

In the future, the CERI will be attempting to follow and support the various health training experiments in the regional context. It will have been understood that the health field is unique both because of the current problems and because it is becoming a major source of concern for the peoples of the world. But, once this subject is adopted, radical renewal of the higher education system becomes absolutely essential if its credibility is to be maintained.

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GENERAL CONCLUSIONS OF THE CONFERENCE AND REPORTS OF WORKING GROUPS

GENERAL CONCLUSIONS OF THE CONFERENCE

The National Delegates and Experts, following their discussions on a Regional Health University which took place in plenary sessions and working groups, have reached the following conclusions:

1. The concept of health is an evolving one that depends on the level of economic development, individual income, the standard of prevention, health education and on the styles of social and cultural organisation. Moreover, health is a subjective notion linked to the degree of tolerance exhibited by each individual and by each society.

2. It is necessary to adapt continually the types of training to the needs of health. The previous points, taken in conjunction with the fact that mortality and morbidity deriving from economic development are clearly on the increase, require a substantial modification in the education of the health professions. In most cases, training is dominated by a physical approach to illness; the psychological aspect is inadequately incorporated; the social aspect is usually omitted entirely. It seems clear, however, that from the point of view of the sick person, illness constitutes a whole, and can only be catered to by a unified approach.

3. To this end, it is necessary to co-ordinate within a post-secondary structure the various types of education required for the health professions. Such a structure would include not only the traditional training, for example in medicine, dental surgery and pharmacy, nursing and certain specialized therapies, but also training in other areas affecting health, such as sociology, psychology, economics, ecology and medical engineering. Moreover, there is a need to educate teams in health care which will function either inside or outside the hospital. Such training should be based mainly on practical experience within health care institutions and health services (primary, secondary and tertiary).

4. The changing nature of the problems and of our knowledge of the health field makes essential the introduction of machinery for continuous interplay between analysis of needs, choice of solutions and the education in the health professions. This interplay requires closer relationships between the post-secondary educational institutions and the community, within a specified geographical area.

5. As a post-secondary complex, responsible at the regional level for research, training, health education, and the delivery of some of the health care services, the Regional Health Post-Secondary Complex represents a new type of ensemble which must be linked with existing national institutions of health care and training. The setting up of such an ensemble implies the development of fundamental research including research on all medico-social aspects.

6. The National Delegates and Experts consider essential:

a) The further development of current experiments in the education of health professions in the context of regional health care.

b) The introduction of new experiments in this field.

c) The setting up, at international level, of machinery for evaluating and comparing experiments and disseminating information about them.

REPORT OF WORKING GROUP No. 1

Chairman: E. D. Acheson,
University of Southampton, United Kingdom

Rapporteur: O. Hänninen,
University of Kuopio, Finland

The group decided to work in accordance with the items (I-VIII below) set out in the published programme of the conference. Additionally the concept of Regional Health University, and the need for academic contacts for health sciences were also discussed.

1. Analysis of the health care demand and the response in terms of education of the health professions

When discussing the analysis of the health care demand it became obvious that there are very few studies available on primary care and the need for it in different countries. It was a general opinion in the working group that the Regional Health University should be responsible for scientific studies on health care demand. These studies give a base on which the development of the local health care can be built. Government offices are less efficient because they are often involved in general problems which hinder a local analysis and they often produce a long lag before action.

Several members of the working group felt that the Regional Health University should be responsible for the education and training of the health care personnel needed. It was, however, noticed that it is difficult to give estimates in the need for health care personnel. The changes in the roles of personnel complicate the calculations. The problem of defining the area cared for by the university is also often difficult. The educated manpower can usually move freely within a country. Loss to other countries can take place, and often does in developing countries.

A number of examples were given in which new universities have affected positively the distribution imbalance of health care personnel in remote areas. When the students have been born in the area, educated near their homes, trained in the regional care units can take their postgraduate education there, and are married to girls or boys in the area, then strong ties tend to keep them in the area. There must, however, be jobs available to make living there possible. It was noticed that when developing the regional health care system other aspects of the social life should be developed also.

2. Co-ordination of education of the medical and allied health professions (short cycles and long cycles). Training of the health care teams

A description of the extended form of the model of the University of Kuopio was presented to the working group. It was stressed that no dead ends (training people for non-existent jobs) should exist. Problems and methods for solving them were discussed.

The major questions put forward were the fear for identity and the lowering of educational standards. It may be a serious problem that all want to continue to the highest level. It was felt that well-defined task descriptions are needed for health professions. The rational diversification of knowledge and skills as well as responsibilities is necessary. If this happens, young people will want to become nurses, etc., too.

It was felt in the working group that it is difficult to give common courses in basic sciences to different categories of students, though joint teaching is possible and commendable in practical work (e. g. , in teams in clinical and field situations).

A short while was spent discussing the problems related to the recruitment of capable basic science teachers. It was felt that it is necessary to offer good prospects for research workers. Time for the work as well as resources should be allocated.

It was noticed that behavioural and social sciences are not taught in many medical schools and it was agreed that they should be placed in the same category as its basic sciences. Behavioural sciences are needed for successful team teaching, and understanding them helps in forming the teams in working situations.

3. Role of the Regional Health University in the functioning health care system

It was realized in the working group that the situation varies greatly in different countries, and it is difficult to give a generalized model. The Regional Health University uses the health care system in education and training and research. It must therefore have at least an agreement for this with the bodies responsible for running the health care units in the area.

In the second model discussed in the working group the Regional Health University has a direct responsibility for a part of the health care in the region. In this connection the responsibility of the university in the field of education and research was stressed. The responsibilities in health care should not overshadow the primary responsibilities in education and research.

According to the third possible model, the Regional Health University has total responsibility for the health care in its region. It was understood that the Negev experiment has shown that this model can be successfully run and can be beneficial both for education, research and local health services.

It was a general opinion in the working group that the model adopted in different countries will be different depending on the local situation. It was, however, felt necessary that the Regional Health University have some sort of co-ordinating mechanism appropriate to the situation in the country and region for discussing and solving problems related to the use of the health care system in education and research.

4. The role of Regional Health University in the analysis of health needs, medico-social research, epidemiological and operational research in public health

This aspect has already been covered in Section I. The working group stressed the need for scientific research in the fields mentioned and considered this to be one of the most important tasks of the Regional Health University.

5. Role of the Regional Health University in the field of prevention and health education

The group took it as self-evident that this role is one of the most important functions of the Regional Health University.

6. Contribution of the Regional Health University to the creation of a regional health policy

The group felt that the Regional Health University should prepare models for regional health policy. Politicians should decide which are to be applied in practice. The Regional Health University may be represented on bodies making regional health policy, as already happens in certain places.

7. The concept of Regional Health University

The group realized that probably all its members had at least slightly different ideas on the concept of Regional Health University. This was considered more a strengthening than a weakening factor, since the situations are different in different countries and possibly even in different regions. All the members of the working group had a positive attitude towards the general concept, and the following characteristics for the Regional Health University were proposed.

> The Regional Health University concept should involve the collaborative evolution of programme for health education and research among institutions with primary responsibility for delivering health care. There will be wide variation in the economy and demography

of each region and in the university and service models to respond to that diversity.

8. Academic connections of the Regional Health University

The Regional Health University should not be isolated from the other sectors of university teaching. The group emphasized that health sciences can gain when having links (e. g. with agricultural sciences, humanities, law and technical sciences). Furthermore, these fields can profit from close contact with health sciences.

Summary

The working group recommends unanimously that the Regional Health University should be scientifically interested in the health care demands of its region. When educating health care personnel no dead ends should be generated in the educational system. The relationship between the regional health care system and the Regional Health University concept must be studied against the local background. The concept of the Regional Health University has a different meaning in different surroundings. At the least a co-ordinating body appropriate to local conditions must be available to discuss and develop the collaboration of the institutions responsible for education and institutions responsible for the health care. In this body the Regional Health University as well as the local health care institutions should be represented.

REPORT OF WORKING GROUP No. 2

Chairman: A. Nordøy,
University of Tromsø, Norway

Rapporteur: J. F. Mustard,
University of McMaster, Canada

First, as a matter of definition, when the word "region" is used it is in a general rather than a specific sense, for the group felt that a "region" would have to be defined by each particular country and locale, taking into account such things as geography, transportation, ethnic and cultural considerations and other factors. My second remark is "Regional Health University". We did not wish to use this in a specific sense but rather in a general one (see 2 below). For our working group, a Regional Health University can be an amalgamation of institutions or can be a single institution, depending upon the circumstances in a country. The specific points made by the group are as follows:

1. It was agreed that the education of health personnel should take place in a co-ordinated and, whenever possible, an integrated manner with the health services in a region and when appropriate, in the health services in adjacent regions.

2. The group's definition of the health education co-ordination system is: the co-ordinating body for education in the health sciences will depend upon the arrangements in a particular country and could be an amalgamation of a number of health sciences educational institutions in a region with a co-ordinating body making what could be called a Health Sciences Complex, or a specific Regional Health University, or something in between.

3. The next point considered was the issue of manpower which the group thought was important for education. Hence, point No. 3 is: the decisions about the types and numbers of health personnel to be trained should be determined within a clearly expressed national policy. The policy should be based upon a permanent planning mechanism in which both providers and consumers of health care play a part.

4. Effective manpower planning requires some means to ensure adequate distribution of health personnel, both locally and nationally, for provision of health services. The mechanism will vary with the type of funding and other factors in the different countries.

5. The following set of points is related to the arrangements and responsibilities of the Health Sciences Education Centres in terms of health services, academic programmes, etc.

The education of health personnel in a region should be based on the regional arrangements for health services and should not be based on a university system of health care isolated from the rest of the health care system.

6. There should be a regional mechanism for the planning and provision of health care involving providers and consumers in which the health sciences educational institutions have a partnership arrangement.

7. Thus, the Health Sciences Education Centre should not usually be responsible for provision of health sciences.

8. In regions where there is a Health Sciences Education Complex it should work in collaboration with health services for the development and evaluation of new arrangements for the provision of health services. This would include areas such as primary care.

9. The education of health personnel must take place within all levels of care - primary, secondary and tertiary - in a balanced manner.

10. Whenever possible, common facilities should be used for the education of health personnel.

11. Whenever possible, health sciences students in different education programmes should receive common training in settings where there is teamwork for the provision of health care so as to develop respect and understanding for the roles of different health personnel in the provision of health services.

12. Arrangements should be made, whenever possible and appropriate, for both vertical and lateral mobility for health sciences students (i. e. to avoid the dead ending phenomenon group 1 has reported on).

13. Arrangements should be made, whenever possible and appropriate, for the health personnel in different levels of care who are involved in education to hold academic appointments and take part in planning the education programmes.

14. The Regional Health Sciences faculty should take part in the development of regional and, when appropriate, national health policy including the appropriate research and development.

15. The group's last point refers to the relationship of the University Health Sciences Group or Complex or Regional Health University to the university as a whole. The group believed that there should be integration between the health sciences group and the university and that this relationship should be maintained.

The group's concluding point is that the University Health Sciences faculty should be an integral part of the university because of:

a) the cultural impact of the rest of the university on the health sciences programmes;

b) the fact that the health sciences are concerned in a major way with health as well as health services;

c) the need for the health sciences to contribute to the education of social scientists, environmentalists and others in respect to health and human biology as it relates to public policy and its impact on health.

REPORT OF WORKING GROUP No. 3

Chairman: G. Berger,
University of Paris VIII, France

Rapporteur: W. Rapp,
University of Heidelberg, Germany

Working group No. 3 is composed of members from different disciplines and specialities; it may thus be regarded as having taken an interdisciplinary approach to the problems it had to deal with. Moreover the presence of representatives from the university experiments conducted at Vincennes (University of Paris VIII), Bobigny (University of Paris XIII), Cincinnati and Maastricht greatly stimulated discussion.

The group debated the questions listed in the Conference programme . Hence its first step was to consider the analysis of health care demand, then the training response to such demand, next co-ordination between various types of training in the health professions, issues related to health core teams and lastly the role of the Regional Health University in operating the health care system. These questions will now be reviewed in that order.

Analysis of health care demand

The group, mainly consisting of academics, began by formulating one criticism, or rather self-criticism: the traditional university no longer meets the requirements of a rapidly changing society. This lack of adjustment is particularly striking in the health sector; thus the medical profession, which is trained in a type of medicine dominated by natural science and is built up through hospital experience, has little or no knowledge of the needs of society or even of the individual. Moreover the traditional university takes far too long to respond. The group also considers the conventional hospital - the temple of training - to be an unduly narrow field of action meeting highly specific needs. Several examples were given: patients who are hospitalized (especially in specialized wards) are of an exceptional character and represent a small percentage of the "pathological reality". "Conventional training orients needs, the professionals canalize them and the public accepts them", one participant remarked. The group noted that the conventional health establishment often develops for its own sake, and that owing to its structure, its orientation and the conservative attitude of the student and physician (and even the nurse or other health care personnel) the way is often blocked to new methods of training and to approaching the patient.

The group also pointed out certain dangers associated with such traditional training: among other drawbacks the medical profession, operating from a hospital and university base, tends to medicalise the needs of the patient; the establishment of new health professions can itself create new needs; the student can be warped by the university system within the first few weeks. Respect for the individual is lost, the patient is looked upon as an object, and the "harshness of modern, technological medicine" prevails. Our Italian friends insisted that modern hospital attitudes, technology and medication considerably influence the patient within the family.

Furthermore we are lacking in objective indicators of the demand for health care, and as yet there are no national and international systems for analysing this demand. Our United States colleagues, who come from the country of computers and futurology, emphasized that it was difficult to predict how demand would evolve during the next ten or fifteen years. The absence of health indicators under the present system prompted the group to formulate a few ostensibly general solutions which might easily be achieved under a new system of university/community interaction: "seeking out the patient in his own environment" - "introducing the notion of subject into the illness concept" - "listening to the patient", and lastly "participation and community must become actual factors in a health system".

Training responses

A first response is in terms of psychological and individual requirements. To begin with, the teacher, doctor and any other health professional must accept and sense their own needs together with those of others by a process of identification with the patient. The group spoke of "soul-searching". A next fact pointed out was that patients should be listened to much more carefully and allowed to talk, that a dialogue should be established so as to find out whatever lies behind the patient and the disease and thus identify the needs of social groups. The participants however realized that patients have difficulty in expressing themselves. The health technician must treat the patient as an adult and teach him how to voice his feelings. This called for substantial effort in training health care personnel. By introducing human science disciplines into health profession courses and by training specialized sociologists and psychologists it should be possible to achieve such a general approach to the patient as a human being. Specific examples were given: the introduction of psychosomatics into the curriculum; work (over short periods) by mixed teams of professionals on interdisciplinary subjects; government grants for sociologically - and psychologically - oriented research projects.

Another response has to do with the structure of teaching. The student must learn what the English-speaking countries describe as "problem solving". He must discover how to solve his problems by "self-learning", making use of the applied rather than the fundamental sciences. The teacher, on the other hand, must no longer regard himself as the sole custodian of knowledge and of the best solution. He must have the courage throughout his lifetime to expose himself to necessary retraining, both in the university and the community outside. In this connection we come back to the need of knowing what practising health professionals require so that adequate forms of training can be provided. Finally it was made clear that it was in the community, that is, outside the hospital, that the student should learn about public health problems and those of the patient.

Co-ordination between various types of training in the health professions

While any general approach to the patient calls for the co-ordination of training in the health professions and the establishment of hospital health care teams, it of course also means that non-hospital teams should be set up within the community. Various training models for health care teams were discussed. "The advantages and drawbacks of a common core", "the creation of real-life teaching situations and experiences, discussion groups, orientation courses in an actual community setting" were noted. In order to deal with an increasingly technical approach, a balance which takes the social dimension of illness into account must necessarily be achieved. Psychological qualities must be ranked with technical qualities, thus implying new pedagogical forms. Moreover, at the outset of their studies, students preparing for various health professions must learn how to work together in the field, to speak a common language and to respect one another.

The role of the Regional Health University

The group considered that the "Regional Health University" might be regarded as a functional model enabling the different types of health profession training to be adapted to the needs of society. It agreed that the Regional Health University should be an essential instrument for innovation and for the initial and continuing training of health professionals. We mentioned that health care teams should be trained under actual care conditions. Hence contact with the region becomes the "essential instrument or organic link of training". The group noted several field experiments which could be regarded as a prime basis for a new form of teaching. Thus the majority considers the Regional Health University to be not only a pedagogical necessity but also a system for "mutual aid". Furthermore the Regional Health University should become an instrument of regional and even national health policy by developing an appropriate set of indicators and research projects, i. e. the know-how, within the limits of our economic resources, in relation to all questions covering prevention, early diagnosis, rehabilitation and lastly health education. All these factors can lead to acceptance by the community and all non-hospital professionals of the Regional Health University. It would become an actual fact and a kind of "university without walls".

The members of the group finally engaged in lively discussion as to how such a Regional Health University should be set up. For example, should new universities be established or should one try to use existing structures? The answer to this specific question was in fact provided whan the ten Regional Health University experiments were presented. It will thus be seen that while some of these experiments are entirely new, most are based on institutional structures which have long been firmly established. It is also interesting to note that these experiments developed from structures belonging to widely varying training systems, health systems and systems of regional administrative organisation, depending on the particular country.

To conclude, the group agreed on the need to develop the idea of a Regional Health University and actively contribute to the launching of experiments suited to each country in the light of its health and training system. These models should be granted an opportunity for innovation, achievement, success and even the privilege of failure.

REPORT OF WORKING GROUP No. 4

Chairman: H. A. Tiddens,
University of Maastricht, The Netherlands

Rapporteur: H. G. Pauli,
University of Berne, Switzerland

This working group consisted of three deans of Medical Schools, two representing so-called innovative educational systems and one a traditional one. By happy coincidence, each representative openly and sincerely defended the merits of his own system. In addition, there were a government representative, one physician with experience in health systems in developing countries, one representative of the World Health Organisation, a physician and educationalist, and one medical faculty member engaged in educational research and development.

The discussion originated from the hypothesis proposed by the majority that today's out-of-hospital health care is as deficient in remote areas of extreme and adverse geographical conditions as in highly industrialized and developed areas represented by the members of the group. One member, however, expressed doubt whether in the face of the extremely low mortality rate in developed countries, the hypothesis of a generally low level of care could be asserted. This opinion, on the other hand, was challenged by the postulate that a large number of health indicators in addition to mortality have to be considered. This was illustrated by the description of a number of health disorders where there is insufficient care provided at the early stages when remedial measures would be simple and inexpensive while care is actually provided when such a situation develops into a complex problem necessitating sophisticated and expensive treatment.

Moreover, the situation of the provider of health care in the average and frequently occurring situation outside of the hospital was analysed as follows: about one-third of patients presenting themselves in general practice are confronted with social rather than medical problems in the traditional sense. The high rate of insufficiently cared for, and therefore constantly returning patients puts the general practitioner under pressure. In addition, his activity becomes increasingly unchallenging intellectually and therefore is boring. A bored worker does a bad job. This becomes particularly distressing when a patient is further referred and all communication is shut off from the primary physician in a traditional setting. Under a heavy work load such a professional becomes separated from any possible source of training which is centred in the hospital. The fact that he does not have to account to anybody deprives him of a qualitative feedback and the lacking intellectual frame of his task makes him subjectively and objectively inferior to his academic counterparts.

This situation calls for a scientific analysis of the common situation encountered in the average health care incident, - in other words, a rational approach to common disorders. There was agreement that empirical research data in this domain are coarse and incomplete if compared with those in the bio-medical domain and that this research is geographically concentrated in some parts of the world, namely, the United Kingdom and Nor h America. But even with this incomplete information presently available, most group members agreed that the important dimensions to be strengthened in this situation were situated in the social and epidemiological sciences. This sequence of views, however, was only partially shared by one participant who thought that the primary obligation of universities, at least in highly developed countries, was teaching and research on a high academic level, and that service covered by such institutions should be limited to this purpose and that opening up universities to the problem described above would lower academic standards. This provided suitable material for a lively and even heated discussions. In a subsequent somewhat reconciliatory vein, it was agreed that both the principles of so-called fundamental science and problem-oriented science have to be defended. Most members, however, maintained that in this day and age, priorities have to be set in favour of the latter, provided that applied science succeeds in extrapolating to the problems of tomorrow.

A logical sequence of this discussion was its extension to the educational needs in the allied health professions. It was thought that a purely vocational approach would be insufficient regarding the attainable qualifications and the subjective attractiveness of these professions. Narrowly specialized health professionals can only operate successfully in a complex and costly institution outside the community setting. For these reasons a scientific structure would have to be established there also. Concerning the education of health care teams, the shared experience of the participants pointed to difficulties in conveying subject matters simultaneously to members of several health professions. On the other hand, the importance of sharing practical experiences was stressed. As the team approach was considered to be essential, this served as an argument among others for an early contact with practical problems in all educational programmes, a contact which should continue using varying situations throughout the study. In this way, changing patterns of teams finally embracing practically all health professions would be the basis of such learning in realistic situations.

It can be briefly concluded that as a consequence of this discussion, the essential components of the Regional Health University were considered to be of importance in the functioning of health care systems, namely, regionalization, co-ordination of the several health professions and the setting of priorities in the utilization of the available means for the total of the system.

Further discussion specified that rapid extension of the demands on universities has to be met by promoting fundamental research and development in health care. The provision of research data in this domain as well as their critical analysis should serve as a basis for future political decisions. Such a concept would have to be based on close co-operation between universities and executive organisations in the health system which again fits into the concept of the Regional Health University.

Part One

HIGHER EDUCATION AND THE COMMUNITY

I

APPROACHES TO THE ISSUE

1

THE INTEGRATION OF HIGHER EDUCATIONAL INSTITUTIONS WITH THEIR SOCIAL, ECONOMIC AND CULTURAL ENVIRONMENT

by

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Foreword

This paper, which was made available for reading at the Conference and provided the substance for my address to its first plenary session, derives from a meeting of experts - in a sense a trial run for this Conference - at the OECD in Paris 10th-11th April, 1975.

Its first part consists of the working document submitted to this meeting. This was prepared by Professor Pierre Cornillot, Pierre Duguet of the CERI Secretariat and myself. The second part considers the expert group's discussion of items in this document that it considered should be redrafted, amended or qualified. The third part proposes questions we felt relevant for discussion by the panel of experts (see Chapter II) and the working groups in the course of the full conference in December.

Present at the meeting of 10th-11th April, 1975 were:

Mayors of large cities:
Alphons M. Baeten, Mayor of Maastricht, The Netherlands;
Theodore M. Berry, Mayor of Cincinnati, United States;
Henri Fréville, Senator-Mayor of Rennes, France.

Regional administrators:
Maurice Niveau, Rector of the Academy of Grenoble, France;
Kjell Öström, Director of Regional Planning, Luleå, Sweden.

University administrators:

Warren G. Bennis, President of the University of Cincinnati, United States;

Asa Briggs, Vice-Chancellor of the University of Sussex, United Kingdom;

John R. Evans, President of the University of Toronto, Canada;

Giovanni Galletti, Director of the Department of Experimental Surgery, University of Bologna, Italy;

Lars Nordström, Rector of the Polytechnic University of Luleå, Sweden;

Consultants:

Guy Berger, Director of the Department of Educational Sciences, University of Paris VIII;

Pierre Cornillot, Dean of the Experimental Faculty of Medicine and Human Biology of Bobigny, University of Paris XIII.

OECD Secretariat:

James R. Gass, Director of CERI;

Pierre Duguet.

I. BASIC REPORT

1. Analytical approach to the conceptual crisis in the universities

As used here, the term university covers all systems or bodies which link post-secondary education with research in virtue of their legal constitution. The term therefore applies not only to the traditional universities but also to the "Grandes Ecoles Techniques" and the Institutes of Technology in France, the Two-year Colleges in Norway and the United States, the Polytechnics in Great Britain, etc.

The many aspects the present crisis appears to have may be misleading. In actual fact, each particular aspect depends on the angle from which the crisis is approached. Only a few need be quoted:

- Obsolescence of a number of degrees and types of training,
- obsolescence of teaching techniques,
- massive influx of students and giant scale of institutions;
- exponential development of new knowledge,
- increasing cost of research equipment,
- increasing specialization,
- increasing demand for continuing training,
- conflict between the desire to conserve and the need to disseminate scientific knowledge and general education,
- democratization and elitism: conflicting objectives.

The crisis may be represented analytically by a simple diagram in which the university's functions are shown as three divergent lines of force whose combination varies considerably from one institution or country to another.

1st line of force: Relations between the university and society
- Functions of the university in response to the development and organisation of society.

Adopting a global view of society as the social, economic, political and ecological organisation of the community, the university establishes relations with society's representative bodies, both public and private.

In exchange for the financial resources it receives the university provides a number of answers based on a combination in varying proportions of the two basic poles represented by

teaching - research:*

- School for engineers or advanced technicians,
- training for doctors, pharmaceutical chemists, dental surgeons,
- training for teachers, educators, interpreters...
- creation of institutes of technology, institutes of town planning, centres for applied research (on agriculture, industrial problems, iron and steel technology, etc...).

2nd line of force: Relations between the university and the individual - The university's cultural and social functions

Many universities have a long-standing cultural and social function designed to enrich the individual without any real connection with the objectives we have considered above.

The objectives associated with this second line of force are often given pride of place inasmuch as they guarantee the universities greater autonomy in their relations with established authority. These objectives are pursued simultaneously in the research and teaching sectors through a wide range of courses which serve no professional purpose and lead up to degrees which have no direct value to any economic sector.

The university's cultural and social functions are the only explanation for the massive influx of students into training courses leading to degrees which offer very little prospect of employment (arts, languages, philosophy, psychology, theoretical physics, mathematics, molecular biology...) but are enriching to those engaged in such studies and reflect a need to understand society and the world at large.

The university's endeavours to serve the individual have resulted in a number of novel and original projects e. g. the "open university", the centres for adult vocational training and social advancement, the "Université du Troisième Age" in France, catering for retired people, university radio and television courses and the "free" universities ("universités critiques").

This is the sector in which the university generally develops its teaching function.

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* The "service" function which has been developed for a century in the United States is largely based on this teaching-research combination in response to certain practical requirements.

3rd line of force: The university and the development of knowledge
- The university's research function.

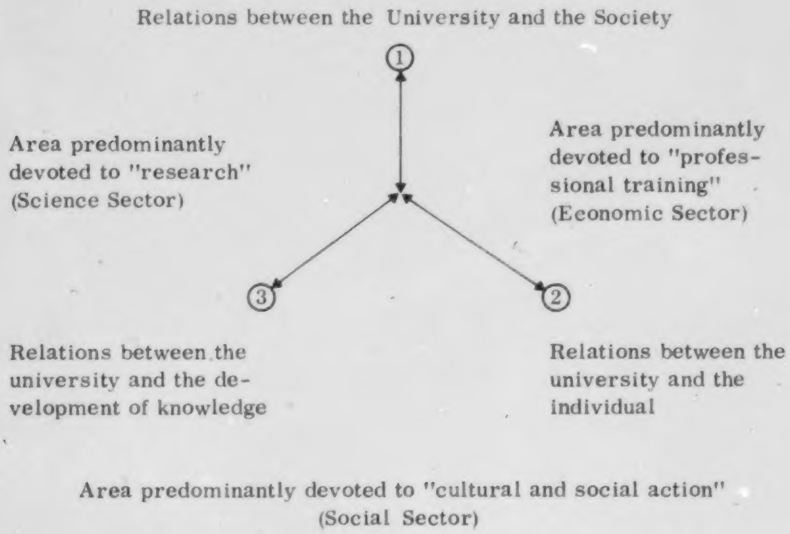
Research has a privileged place in the universities of all countries. Any university discipline that does not broaden its field of knowledge is rapidly abandoned.

The teaching/research mechanism functions with a bias towards research. Every university professor endeavours to attract his best students into some type of training which opens the way for research. He himself devotes much of his time and his allotted funds to research. His professional career is directly dependent on the quality and frequency of his publications. The famous dictum "publish or perish" is still valid today and reflects the priority given to research as a criterion of professional status.

The fact is that this third line of force covers the whole problem of the development of knowledge and the updating of university disciplines. The most serious problem in this respect at the present time is the continual influx of new information which must either be integrated into the system or presents such a challenge to the prevailing structure that a new system has to be thought out.

The effects of this perpetual transformation of knowledge on teaching are often considerable and involve a constant process of updating. As a result the university tends to devote the bulk of its resources to self reproduction.

This analytical approach may be expressed by the following diagram:


Relations between the University and the Society
①
Area predominantly devoted to "research" (Science Sector)
Area predominantly devoted to "professional training" (Economic Sector)
③
②
Relations between the university and the development of knowledge
Relations between the university and the individual
Area predominantly devoted to "cultural and social action" (Social Sector)

This diagram is valid for every type of university, each with its specific and variable combination of the vectors 1, 2 and 3.

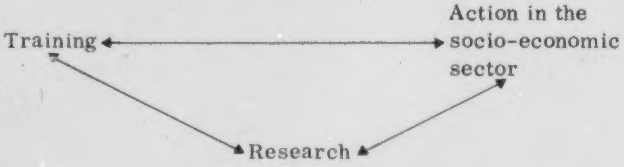
It is also clear that violent stress on any one vector, whether centripetal (demand) or centrifugal (response to demand) is bound to distort the system to the detriment of one of the two other vectors, or both of them.

The simplest solution so far found has been to concentrate systematically on two out of the three vectors to the detriment of the third. For example:

- The major institutes of technology, the centres for applied research, etc. are institutions in which vectors 1 and 3 predominate,
- the polytechnics, major engineering schools, technical departments of universities, faculties of medicine and pharmacy, teacher training centres, etc. are institutions in which vectors 1 and 2 predominate,
- many faculties of arts, science and law, particularly in Europe, the liberal arts colleges in the United States etc. have vectors 2 and 3 as their dominant factor.

Nevertheless, this pattern of objectives is not satisfactory inasmuch as it rules out one of the elements which give the university structure (economic, social or scientific) its balance and inasmuch as it is often the inevitable result in a breakdown in the equilibrium between two poles, e.g. demand (from the community) and response (from the university) to the detriment of one or the other.

A new combination of forces is the only solution likely to restore the balance. To secure equilibrium in the university structure the terms of the teaching-research relationship will have to be replanned in the form of a two-way movement:



which will entail a fundamental challenge to its habit of defining activities without reference to the problems of the socio-economic sector to which these activities are designed to provide a response.

This analysis is bound to force the university to integrate research on problems that the teaching sector can contribute to solving, while the research, in its turn, enriches the teaching sector.

This change in the traditional system (which was foreshadowed by the founders of the land-grant colleges in the United States) not only suggests that the university should participate in the form of "services" to the community (hospital, agriculture, justice, ecology...) but involves the basic idea of the university's overall responsibility for permanently analysing the social and economic sector concerned and promoting solutions likely to improve the operation of that sector.

However, if the concept of "service" is to be extended to the whole sector concerned, the university must have the necessary specialists for teaching, research and practical action.

The example of the faculties of medicine is characteristic:

The assumption by universities of responsibility for hospitals has created a "service" function and at the same time has guaranteed a two-way link between research, teaching and practical action. But the universities have gradually concentrated on the training of (hospital) specialists to the detriment of other forms of medical practice.

The universities' initial response to the demand for training in these other forms of medicine which they do not "practise" was to make use of its existing facilities, but to continue to maintain the other forms at a lower level (the general practitioner is merely a sorter who channels patients towards the hospital specialists).

Because of its failure in this field and the serious danger to public health resulting from the gradual disappearance of these forms of medicine (particularly the general practitioners) the university has begun in certain countries to apply the general scheme of research - training - action to the sectors of medicine it has hitherto neglected.

Certain faculties have moved out of the privileged hospital sector and endeavoured to extend their field of action to the whole sector of medicine which is now simply a part of the socio-economic sector of health.

The basic task of "providing a training for all types of medical practice" involves the need to participate in all acts of medical care. Action in this respect is therefore the response to a more or less specific demand. The demand-response relationship is characteristic of the permanent interaction between the socio-economic sector and the university.

As in medicine, the university cannot hope to respond to this demand from the community in any of its other fields of responsibility except by planning its structures with reference to two fundamental factors:

- A social and economic sector: health, protection and development of natural resources, the respective rights and duties of the individual and the community, etc.
- a precise geographical and demographical sector: the area of practical action.

Within these limits the university may reconsider its functions and at the same time remain consistent with its institutional objectives in the scientific, economic, social and cultural fields.

2. A new conception of the relations between the university and the regional community

We have described the conceptual crisis in the universities in terms of a breakdown in the equilibrium between three principal vectors of activity characterized by the concentration in almost all cases on two of these vectors and the impossibility of performing the functions laid down because the third vector is not effectively integrated. A particular feature of this crisis are the increasing stresses and strains on the university from the explicit or implicit demands of the community. The actual development of the community tends to accentuate the factors of desequilibrium described above:

i) The strong influx of students and adult trainees due to individual demand for access to higher education and to the increase in collective needs mobilizes most of the universities' resources for initial or continuing training. The university has become a thoroughfare for a growing proportion of pupils leaving the secondary school - although it may be said that most of the latter fail - to acquire degrees or professional qualifications. The university's relations with the community therefore tend increasingly to be reduced to channelling students in at one end and out at the other.

ii) The wide range of training demanded and the complexity of vocational requirements are forcing the university to develop training courses in fields where it is not competent. The university offers patterns of study based on the development of knowledge and techniques which are generally mono-disciplinary whereas the community presents complex situations which call for simultaneous, multiple action at different levels.

iii) There are certain demands from the community to which the university system in its present structure has no possible response.

In the last decade changes in outlook have developed an increasingly critical attitude among the members of the community to the whole structure of society and its stratified pattern of control. Generally speaking there is increasing unwillingness among civically-minded adults to delegate their power and their right to participate in the decisions that concern them.

In the developing conflict between established authority and those who claim the right to participate in decision-making, it is vaguely felt that access to information, education and more extensive training offer the elements of a solution. But the rising clamour for social advancement through access to education and information is out of all proportion to university facilities as organised at present in the various countries. Because it maintains a hierarchical structure (among academic staff and between the latter and the students), recruits its teaching staff with exclusive reference to academic criteria, gives precedence to the dispensing of knowledge over the analysis of real situations and will not or cannot respond to the efforts made by the local community, the university is hardly felt to be an element in the solution of problems. On the contrary, it is in danger of becoming either a citadel of tradition shielded from the main currents of change which stimulate and mobilize the community or the place in which strains and stresses are most violent.

The great majority of socio-cultural or socio-economic activities increasingly call for the simultaneous and coherent action of a great number of practitioners of different levels and competence although the level of their competence does not necessarily determine the relative importance of their action. In other words there can be no action unless it is by teamwork and unless the team consists of heterogeneous, complementary elements.

The monodisciplinary pattern of teaching and research and the individualism which is statutorily recognized in research and even teaching make it impossible for the university to participate in the basic educational projects designed to serve the public and prompt it to relegate the training of a large proportion of the participants in joint projects outside the university system.

In these circumstances, university practice will fail to co-ordinate with social practice as long as the university is incapable of integrating its problems with those of the region.

The number and range of the questions "asked" by the community make the universities feel that they are faced with a contradictory choice between solving immediate problems and producing new knowledge. The conflict between fundamental and applied research is a false dilemma due to a double mechanism.

i) University research generally proceeds from a theoretical problem concerned with the development of the knowledge and techniques of research itself. Each specialist considers that his own action lies within the field of application of the general laws laid down by his particular discipline. Any practical application is consequently seen as secondary fall-out which is willingly left to specialized institutes or to firms instead of being regarded as part of a feedback system which enriches but also relativises specialized thinking.

ii) Any research and action proposed by the community are generally seen as piecemeal, disconnected enterprises due to the requirements of the moment but distorting the development of genuine scientific knowledge. Research done in response to express demand is therefore sometimes considered as "impure" research due to unwarranted or dangerous pressure. The university, which is theoretically neutral, tends to keep its projects sheltered from any influences which might deteriorate or distort them. It seeks to develop an area of freedom shielded from the winds of controversy, a territory in which opinions are free and the research for truth untrammelled. Hence the temptation, whenever the community brings up problems to adopt either a neutral or a militant stance (according to whether its main aim is "objectivity" or "truth").

The university will therefore be prepared to render "services" provided it maintains control over the development of its thinking and will refuse to identify the problems of research with the problems of the community.

Disciplines develop with the support of technology and specific concepts and their language is less and less transparent to outsiders. At the extreme limit, communication is no longer possible except among specialists and the community ceases to be able to recognize its own problems in the solutions the university proposes. The prodigious growth of university disciplines in the last fifty years was bound to widen this gap and at the same time to exercise a certain fascination on academics. It is easy to acquire the stature of a "magician" when one's language and research are esoteric, when one has the right and duty to destroy the community's myths and taboos and give full rein to all types of experiments and research, etc. It is this kind of approach which ultimately raises doubts as to the validity and significance of research, and such doubts induce an attitude of indifference or even hostility among the public with regard to scientific research whereas it used precisely to be the university's mission to disseminate scientific thinking and encourage an increasing section of the public to participate.

All these considerations and the analytical approach we have adopted to the conceptual crisis in the universities suggest the following conclusions and proposals:

i) The three specific vectors of the university (scientific, economic and socio-cultural) must be brought back into balance if each of the functions (research - training - action) is to be performed effectively and the university system is not to be constantly distorted to the exclusive advantage of one of the three vectors until it becomes a sheer caricature, due to:

a) the accumulation of knowledge for its own sake, making the university into a closed circuit, perpetually reproducing itself,

b) excessive professionalization in the service of economic production and undue subservience to existing socio-political structures,

c) perpetuation of the myth of exclusive culture, i. e. the idea that the university provides an education which is either general or specific according to requirements, each graduate being free to make whatever use of it he wishes.

ii) It is possible to restore this equilibrium, not by making any change in the university's internal structures but by organising a two-way communication between the university and its environment, i. e. by seeking a new type of relationship with the community.

iii) If it is to perform its functions adequately in the field of research, training and action, the university will have to integrate genuinely and effectively with its environment. It must make use of ability wherever it is to be found and disseminate knowledge wherever knowledge is needed. It should not be necessary to enter a university as a full-time teacher or student in order to establish communication. Effective integration means, amongst other things, that anybody can be used as a teacher if his ability and experience enable him to take part in the available range of continuing training schemes. It should in fact be possible for any professionally qualified person, whatever his qualifications, to serve as a member of the academic staff. Integration also means to a large extent that any professional premises can be utilized as a place of training.

iv) Training should develop in the light of real needs whether the latter are expressed or latent. The university must not continue to respond to the situations which the community submits for its analysis by stereotyped patterns based on theoretical expectations and the profiles determined by the internal logic the knowledge has to offer. The concept of research should be broadened by a feedback process between stereotyped patterns and factual situations so that it covers all the community's needs and does not merely consist of a theory and the secondary and minor applications of that theory.

v) The fact that the balance between the research function and the teaching function cannot be restored except by making the university a dynamic structure able to open its doors to everybody with vocational, social and cultural responsibilities also means that the field of communal action is no longer seen as a comparatively limited special sector but is bound up with the effective performance of the research and teaching functions.

vi) There must be a clear definition of the university's "environment". There is no question of forcing the universities into a limited local mould and depriving them of their function as a focus of communication and of national and international development but they must be well and truly integrated in a real locality so that dynamic (two-way) communication can be initiated. Hence the concept of regional universities, although the term regional will have to be defined in each case with reference to levels of development, demographic patterns, the specific nature of the university, etc.

vii) Although the effort required from the university to achieve this "regional" integration seems essential if the university is to be more effectively integrated into the community and there is to be any solution, even partial of its contradictions, the strain on the community's representative socio-political and administrative structures must not be overlooked.

"Nature hates a vacuum" says an old dictum. "The absent are always wrong" says another. These two sayings are particularly applicable to the university's position in the community. All the places are already taken, all the problems studied, and the university is likely to be criticized for poaching on other people's preserves.

No action centred on the community can be carried out without the latter's full agreement. In particular, the community's leaders have to accept the idea that there is a wide range of problems on which the university can and should do research and offer solutions irrespective of any policy option. Because of its indispensable neutrality, the university can consider several solutions to a problem, but must not make any policy choice in lieu and place of the community. The university's participation in any projects which may result from a policy choice at regional level from among a range of possible solutions must reflect a clear distribution of responsibilities which are essential to the feedback relationship between the university and the community at regional level.

3. Post-secondary structures for an effective organisation of relations between the university and the regional community

There are few structures in post-secondary education which are adapted to this necessary permeability between the university and the regional community. The recent changes in those structures have frequently been made in the hope of affording the universities some solution to certain problems of post-secondary education. These include giving students more effective guidance to save the cost and frustration of drop-outs, enabling students to switch more easily from short cycles which are generally technical to longer cycles and vice versa, developing common-core training facilities, making the most efficient use of human and material resources, providing a setting for continuing and recurrent education, personalizing education, developing the links between teaching and research,* etc.

This changing situation has largely been reflected in the separate grouping in certain countries of institutions providing short cycles and institutions providing longer cycles, i.e. Gesamthochschulen in Germany, all French universities after the 1968 reform, the multi-campus universities in the United States. At the same time there has been a centrifugal tendency in post-secondary education (University Without Walls in the United States, Open University in Great Britain). Whether this trend has been one of institutionalization or disinstitutionalization, it has generally proceeded without any reference to the needs of the community and the region.

It may be added that in many cases these structural reforms have provided no answer to a range of problems which have culminated in student revolt. The students have rebelled against the fragmentation of knowledge among a multitude of special subjects which seem to provide a refuge from genuine knowledge; against the growing gap between a cloistered university and the complex, but indissociable unity of "real life"; against a scholastic, abstract education in which practical training plays only a minor secondary part; against isolated courses with no real bearing on professional life which is based on cooperation and team work among people speaking a common language; against a permanent state of intellectual dependence which destroys creative ability and rules out any contribution on the part of the students.

The post-secondary educational structures which it is proposed to set up (either from scratch or as a modification of existing structures) in response to the problems of higher education, the expectations of the students and the socio-economic needs of the region will require the universities to be planned and structured to meet the problems they will have to face rather than to serve the disciplines they teach. This should be apparent from their new names which involve more than a mere change of terminology (health universities rather than medical universities, etc.). The new structures call for a combination of two types of institution:

a) Specialized and generally mono-disciplinary institutions

Their vocation will be to maintain and develop each special discipline. They will be responsible for training their specialists, developing their specific technology and endeavouring to apply in-depth analysis to the phenomena observed from their various sources of investigation.

These institutions will not be called upon to define their field of action in isolation except for the most fundamental part of their research and the most specialized part of their theoretical and technological teaching. They will not basically participate in the training of students.

b) Inter-disciplinary problem-oriented institutions

These institutions will develop their training and research in a specific field in response to the requirements of the region in which they operate, e. g. , health, environment, development, organisation of production. Their function will not be to develop special disciplines, but to conduct a permanent, exhaustive analysis of the fields for which they are responsible. It will be their particular task to define the training required to meet the specific needs of the region and they will therefore have to supply an adequate number of specialists of the requisite quality.

These institutions will also be a special forum for discussing the divergent interests of organised groups or individuals, analysing problems and proposing solutions. They will be centres for confrontation, investigation and experiment and will maintain close and permanent contacts with actual developments in the fields of study concerned.

The "post-secondary complex" will be initially defined by the problems concerned and the regions in which action is to be taken.

For this purpose, various combinations of monodisciplinary institutions and interdisciplinary problem-oriented institutions can be envisaged. The regional problem-oriented university may associate one or more problem-oriented institutions just as a monodisciplinary institution may be associated with one or more regional problem-oriented universities.

The problem-oriented institutions will in most cases make the arrangements and provide the facilities for action in the region. The university and the local community will in fact co-operate exclusively through the bodies they have set up for guidance and management and it will then be possible to decide simultaneously the training and research which can be assigned more especially to conventional academic staff and the training projects and research in which the community leaders will co-operate with teachers and students "in the field".

The community will contribute by providing the context for the projects together with opportunities for training and research "in the field".

The regional problem-oriented university is designed to facilitate the transition from stereotyped patterns of training to training through action. It should conduct the community's action in such a manner that the latter's economic, scientific and socio-cultural problems become those of the university. At the extreme limit, the university is the regional community. Integrating the university into the community does not mean making it into an organisation for "services" or "assistance" but a centre for problem analysis and action.

Nor does integrating the university into the community merely mean enabling the university to make use of the problems facing the region purely for teaching purposes.

In the past, universities of a certain size used to set up "Instituts d'application" (institutes for applied research) which did not necessarily cater for the needs of their region. These institutes operated side by side with the university's faculties, departments, schools or monodisciplinary institutes, the latter being quantatitively the larger and exercising the powers delegated to them by the university.

What is needed is to give the powers of the monodisciplinary institutes a different weighting from those of the interdisciplinary institutes, orient the latter towards specific problems and dedicate the whole complex to the requirements of its specific region.

The solutions we are proposing integrate the reforms outlined at the beginning of this section which are assumed to have been introduced. In actual fact these reforms lack an objective in most cases. They have been adaptations in response to pressure, mostly of a demographic and economic nature, and have had to be directed into certain channels and kept within strict bounds.

In practice, all these reforms have tended to increase the flexibility of the university system (mobility of students, efforts to keep the cost of change or failure as low as possible, action to link short and long cycles more effectively, arrangements for a common core of studies, etc.); but it is also true that problems have often in practice been postponed and the flood of students pressing for entrance to the university has now become a flood of graduates pressing to enter the labour market.

At the same time, it is almost impossible to link the university's policies to an analysis of the labour market owing to the nature of employment forecasting, the rapid changes which are occurring in the community and the time required to introduce changes into the university.

Action must therefore be in greater depth and along shorter circuits and genuine permeability must be established between the university and the community in place of the present vain attempts to bring one system into line with the other after having first carefully sealed it off from the outside world.

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We have intentionally confined ourselves to general comments on the relations the university should develop with its regional community and to a brief outline of the idea of a regional problem-oriented university.

To be meaningful, a reform must be seen in the light of the system which existed previously. Consequently, university structures will vary in relation to the educational factors prevailing in the countries concerned and according to the geographical, demographic, social and economic characteristics of the regions in which the universities operate. Structures will also depend on the level of the demand from the community and the disciplines handled by the university.

Our intention has been to outline a set of problems which are at first sight paradoxical, and in which a solution to the university's internal difficulties and its stresses and strains may be found by fostering a dynamic two-way system of communications with the regional environment so as to enable these stresses and strains to be progressively reduced and restore the balance of the university's basic functions.

II. ANALYSES OF THE DISCUSSION BY THE EXPERTS AT THE MEETING OF 10th-11th APRIL, 1975

The first item the working group examined was the set of problems centring around the idea of a "conceptual crisis" which the document had attempted to develop, and which met with a wide measure of agreement.

1. The "conceptual crisis" in the universities

Most thinking on the many crises that have shaken the universities since the 1960s has been concerned with short-term developments. Particular attention was paid to the growth in the number of students, the exponential expansion of knowledge, the considerable increase in educational expenditure and its relative weight in national budgets, the change in demand, the contradiction between training structure relationships and the diversification of jobs, the inefficiency of teaching methods and the failure or drop-out rates. Consequently, solutions adopted in the case of most innovations introduced or reforms proposed have themselves been of a largely short-term nature and have left certain fundamental problems unanswered.

But the fact that there is a "conceptual crisis" means that there is a permanent and normal state of actual tension between different university functions, that this tension is constantly being increased or reduced by short-term developments and that crises arise from a breakdown in the balance between three principal vectors:

- development of knowledge ("Research"),
- response to the demand, both individual and collective for personal advancement and greater proficiency ("Teaching"),
- the short or long-term response to the different demands of society, either through teaching and research or otherwise ("Services").

The working group accordingly signified its agreement on the following two ideas:

i) The three functions described above are indeed the principal functions of a university and it is a constant and arduous problem to perform them all satisfactorily;

ii) the regulation and integration of these three functions must be organised if each of them is to be genuinely performed and the university system is not to suffer permanently from disequilibrium in favour of one or the other.

As soon as agreement was reached on the nature of these problems, the discussion was able to centre effectively on the subject of the December Conference, i.e. is it possible to consider that a close link between the university system and the community and more especially its local or regional environment is a means of ensuring the regulation of the three functions? Does this provide a viable alternative to enable the university to retrieve its balance? Does it respond to community needs?

The points we now present for discussion are consequently concerned with these very general questions.

2. Are closer links between the university and community desirable? And are they desired?

Not all the participants felt that the reply to these two questions was necessarily affirmative.

The fact is that the "ivory tower" outlook has not always been fatal to the progress of the university and to research in particular. One participant pointed out that the university developed a crisis whenever people began to devote too much attention to it and turn it into a weapon or make it an instrument for finding inevitably biased and piecemeal solutions to the economic and social problems imposed on it from outside.

Admittedly, a university, as soon as it commands a large audience, must play its role as a centre of preparation for the different tasks of community life, but it is perhaps important for it to preserve the authority of an institution which holds aloof from the utilitarian concepts of the economic machine (profitability, competition, efficiency) in order to devote itself to the transmission, extension and critical examination of knowledge.

But despite the professions of faith, is the tightening of links really a matter of strong concern on both sides? It need hardly be said that in certain countries the university is seriously criticized for its shortcomings in the field of professional training or in the analysis of concrete and specific problems, but at the same time it is in practice refused the right to do these things precisely on the score of its shortcomings. Conversely, the determination to acquire the competence to analyse the problems of the social environment and train all the categories of workers in this field often reveals a desire on the part of the universities to increase their power and therefore their autonomy.

The discussions on this second point, therefore, make it possible to formulate the question more precisely: is there a determined policy in all Member countries to tighten the links between the university system and the community without involving a de facto process of subordination?

What power conflicts will the tightening of these links inevitably generate? How can such conflicts be resolved and in particular how will they be reflected in university financing and budgeting procedures?

3. What is meant by "region" or "environment"? Does this term represent precise geographical and administrative entities?

This question actually covers several convergent ideas:

i) In so far as it participates in the development of knowledge and the training of individuals and is not a simple provider of services, the university transcends any geographical or administrative limits. In other words, how is it possible to link up the international, national and local functions of universities if one of these levels is given too much preference?

ii) Even if the scope of university "services" is extended, is it possible to set strict limits to the regional context? In certain cases the regional context may be identical to the urban community, in others to a regional entity in the traditional sense and sometimes the regional context may itself be international (survey of pollution in the Baltic Sea, regulation of the course of the Danube or the Rhine, etc.). What type of institution can effectively solve these problems?

iii) In no event should this process of tightening community links be confused with the geographical distribution of tasks resulting from a policy of centralized planning. In this connection, the health question is exemplary: in a given country different regions have to solve identical problems. Universities attached to regions do not therefore have to distribute tasks among themselves but to propose different solutions. Does this not make for conflict between national and local bodies?

All these points should help to clarify the concept of a "regional university". In reality, the contradictions or problems involved are due to an inadequate definition of the links between the university and the environment and of the kind of services which it should provide. When the university gives preference to professional training in terms of adaptation to existing types of employment and improvises answers to questions formulated extra muros and independently of it, there is a contradiction between international, national and regional functions. But a university capable of analysing concrete problems and defining training job descriptions and corresponding research programmes can become an effective instrument for national or international activities. Among many other examples, we might mention certain American universities which serve as a basis for development schemes or quote the agreements between the universities of Grenoble in France and Constantine in Algeria.

The problem is more complex when examined from a budgetary point of view; in any case it shows the importance of diversifying budgetary resources and going beyond a merely national or regional budget.

4. Links between the university and the community

In reality the links between the university and the community are already very complex. University staff are themselves members of the community. As the number of their students increases, the universities "process" a large part of this community. They know some of its problems and respond to them more or less adequately. The university is also linked to the community through the political and financial authorities at national or regional level.

Tightening the links between the university and the community therefore essentially means changing the processes by which they operate and in particular takes the form of a constant two-way flow (the students).

This signifies at least three things:

i) The opening up of the resources of the university to the community as a whole, without the need for its members to acquire the status of a student entering a specific channel or aiming at a given degree. This open approach covers not only the problems of adult education and continuing vocational training but also participation in social, economic and cultural activities and research into the specific needs of the community;

ii) the opening of the university to community resources: it should be possible to conduct research in and with the university; it should even be possible to teach there without being an academic. This latter point may, incidentally, be a method of continuing training. The best way for certain specialists to obtain further training may be to participate in basic or specialist teaching;

iii) participation by the university in the analysis of community problems and the definition of possible solutions.

This last point seems capital: it implies permanent and simultaneous co-operation at all institutional levels. It means that the university must never be seen to be merely performing tasks which have been decided outside its walls but that its mission is to make a critical assessment of the solutions proposed, to put forward alternatives and sometimes to reserve the terms of the problems submitted to it.

The point is undoubtedly the most delicate: it generates the power conflicts we referred to earlier and signifies, inter alia, that the policy-makers must agree to being sometimes offered alternatives representing choices which differ from their own. It also signifies that as far as a university is concerned, political neutrality does not mean not having a policy but not usurping the functions of the proper authorities at a time of decision.

However, to say that the university must participate in the analysis of problems signifies also that it must be capable of doing so and this leads us to the problem of its structures and in particular of the connections between interdisciplinary and monodisciplinary institutions.

5. Analysis of risks

There is risk involved in changing the relationships between the university and its environment and hence the relationships between the university and the community.

Two types of analysis were proposed:

i) The first emphasized the risk of changing the university into a "service station", i. e. to strip it of its own substance, to prevent it in effect from exercising its critical vocation, to dismantle any research whose immediate results cannot be perceived and therefore to make the university system a mere reflection of the contradictions and conflicts of the community which surrounds it. In this case, at least in the long term, the university would respond even less to real social demand.

ii) The second emphasized the diversity of the university's "response time". It is indeed clear that the inevitable slowness of research programmes and the establishment and execution of training curricula is not at all consistent with the urgency of social demand. This brings us back to the dilemma between the service station and a response which is so slow as to be unacceptable to the community.

The discussion covered by item 4 above reflects these considerations. References to the tightening of the links between the university and the community nearly always relate to the adaptation of the university, the manpower trend (response delayed and therefore almost always inadequate) and the negotiation of multiple service contracts ("service station").

The group of experts agreed on the fact that the relationships between the university and the community cannot be balanced except through an analysis of the problems and the proposal of complex solutions which include the problems of employment - amongst other points. This assumes that the relationship is established in a concrete way at levels where university responsibility can be effectively engaged, that is to say the level of the local community more or less broadly understood.

6. General value of the proposed model

The group of experts mainly proceeded in the light of the work done by CERI (Environment) and with a view to the December Conference (Health University) with interdisciplinarity as the essential approach to curricula and institutional structures.

A possible extension of the model to other economic and technological fields and also to the human sciences and humanities was discussed.

The problem is undoubtedly far from simple and we have not found a general solution. The important point was that expressions such as Health or Environment University do not correspond to any one category of disciplines in the sense that they combine basic sciences, applied sciences and social sciences and should make it possible to train a range of very different specialists some of whom have a profile more reminiscent of sociologists and engineers than doctors, paramedical staff or conventional land-use planners. The question should therefore be put otherwise: can the division of human activities or human requirements (health, environment, production and distribution of material goods, etc., the dissemination of knowledge and education) be made to correspond point by point with the traditional divisions of knowledge and teaching?

Is it also possible, in certain fields, to dispense with activities which are totally without any social and therefore regional roots? Is it possible to make an inventory of these activities?

7. Strategy of the development of regional universities

Accepting the overall range of problems and adopting a "conceptual" approach, the group of experts did not deviate at any stage from its practical responsibilities and determination to remain realistic. The range of positions represented by the experts enabled them to refer to several possible development strategies in the course of the discussions:

i) One was in connection with the experiment reported by our colleagues from Luleå in Sweden where the university was designed and built in the light of regional development, in close association with the local authorities and with a view to solving problems which are not only technical (fundamental sciences and mining technology) but also economic and even demographic (stopping emigration of youth after secondary education). In this type of model a distinction would have to be made between the factors that reflect deliberate planning which, as we have seen, is not necessarily an aspect of problem-oriented regional universities, and the factors representing an attempt to tighten the links between the community and the university.

ii) The second involves the development of interdisciplinary training and at the same time the gradual and often ad hoc development of training and research unconnected with any previous research arrangements, training organisation or even effective projects. We have seen this exemplified in cities like Rennes, Cincinnati and Bologna. This action radiates from a central point but does not in the first instance entail any institutional change. It fosters a pattern of dialogue, concerted action and analysis which subsequently becomes a necessity and finally influences the way in which both the community and the university function.

We consider it absolutely essential that the theoretical considerations we endeavoured to set forth in the basic document should be supported by this analysis of possible and desirable strategies.

To sum up, the work done at the April meeting aided the CERI Secretariat and the consultants in their research on university/

community relationships and encouraged them to put forward a comparatively original model, while at the same time it made it possible to state certain ideas, focus on certain difficulties and realize any legitimate fears.

These initial considerations are not completed. They should continue pari passu with research on models for a Regional Health University because they provide a cross-check for this study, and, in a certain sense, condition it.

Such are the implications of the discussion which should be prompted by our report and for which we now propose a number of questions.

III. PROPOSED TOPICS FOR DISCUSSION

1. Is it right that the solution of "conceptual crisis" in the university should be given preference over such immediate problems as access to the university, fluctuations in employment, etc. ?

2. Is it important that a university's local environment should be fairly strictly defined (region, commune, county, Department. . .) ?

3. Is it possible to define the relationships between the university and the local structures otherwise than in terms of subordination?

4. Can the present university system, as at present organised, participate effectively in the analysis and solution of the problems of society?

5. Can this problem be adequately met by the establishment of interdisciplinary structures combined with monodisciplinary institutes?

6. What type of institutional and financial problems are likely to be raised by the opening of the university to types of training or activity which do not lead to degrees or are not in line with traditional procedures?

7. Is it possible on the basis of existing institutions, to develop original systems which would pave the way to a new type of relationship or should preference be given to new experiments?

8. Should the model of a regional university integrated in its environment be gradually substituted for existing institutions or should it be developed on parallel lines? In the latter case what consequences and problems would arise in connection with recruitment, student selection, financing, student mobility from one system to the other, etc?

9. Is the "regional problem-oriented university" a model which can be developed in sectors other than that of Health? What type of sector should receive priority examination?

10. Is it possible to identify areas or subjects in which the problems we have described would have no meaning or would be considered harmful?

2

REFLECTIONS ON THE RELATIONSHIPS BETWEEN THE UNIVERSITY AND THE LOCAL AND REGIONAL AUTHORITIES

by

A. M. Baeten,
Mayor of Maastricht, The Netherlands

An address to the Conference's plenary session on 15th December, 1975

On examining the previous report presented by Professor Berger, I felt it gave a very sound analysis of several aspects of the conceptual crisis faced by the universities and the problems relating to their integration in their social, economic and cultural environment. I again became conscious of the divergence between the university man's outlook or way of thinking and the pragmatic approach of a Mayor like myself administering a local authority. This divergence may help to explain what I consider to be the excessive weakness of the relationship between higher education and the community - although both sides agree at the outset that this relationship must be strengthened. Do the university man and the pragmatist really speak the same language? Or is there not the same difference between the university and community: the university generally proceeds from a theoretical problem connected with the development of knowledge and research techniques; the community on the other hand has its own more or less practical requirements for which it seeks services and raises questions that must be answers. Community and science could perhaps be brought together more easily if the pragmatist and the scholar could find a means of overcoming these divergencies. For myself, I have tried to look in this direction. Although I cannot really appreciate the importance of pure science and although I am quite willing to recognize that it deserves its rightful place in the university, I do not think we can deny that the value of a university is mainly determined by its social significance. For some disciplines such as medicine, technology, sociology, this social significance is all-important. Generally speaking the question of knowing what the university can and must mean for the community arises from the university as it offers its services to the community. It is surprising to note that the community seldom asks itself what it can mean to the university, how it can be of use to it, what services could be offered in exchange for the financial resources provided by the community. However, such considerations would provide a starting point for a closer relationship.

While I fully support the hypotheses set out in the previous report - for example the statement that it will not be possible to re-establish the balance between the university's specific axes (scientific, economic and socio-cultural) by altering the university's internal structures but only by re-organising the exchanges between the university and its environment, or to take another example, the suggestion that the university should be integrated into its environment - I believe that, as a necessary complement to those hypotheses, society for its part must seek a new type of relationship. This new relationship will be conditioned by the answer to the question: how can the environmental community, the region, favour the integration of the university in its daily life, in its social, economic and cultural structures? It is precisely in this field that the local and regional administrative authorities, through their influence on the community, will be able to provide means and opportunities for encouraging such integration in the most varied of ways.

I am a pragmatist and I have already had the pleasure of taking part in discussions on the subject we are considering here. For a pragmatist, experience is essential - and of all the mayors in university towns the world over, I am probably the one with least experience. While I have the honour of being the mayor of the oldest town in my country, it is at the same time the youngest university town.

"De jure", its university does not even exist. The law constituting it has indeed been passed by Parliament but it will only be published in the official journal (the "Bulletin des Lois") in a few days' time, before the end of 1975. The official opening by the Queen will not take place until 9th January 1976.

What then is the reason for my firm conviction that a close relationship between community and university should be so favourable to the university's development? It is the result of my experience during a single year in contact with a single experimental faculty, the Faculty of Medecine, which has led me to this conviction. The relationship between the Faculty of Medicine and the region deserves to be developed. But first, it may be useful to give a few details about the town of Maastricht and the foundation of its university.

Maastricht, the main town in the province of Limbourg, the southern province of the Netherlands, is situated on the banks of the Meuse. By its very situation, it seemed predestined to become a European town. It is in fact 30 km from Aix-la-Chapelle, 25 km from Liege, 100 km from Brussels, 400 km from Paris and 250 km from the Hague, the seat of the Netherlands government. As to its history, we can go back to the time of the Romans who fortified it for its own protection. In the fourth century Bishop Servais had the episcopal see transferred from Tongres to Maastricht, which thus become an important centre for Christian culture. One feature of

Maastricht's history is that has been at the cross-roads of economic and cultural life, for it is open to so many different influences - the French in the south, the Dutch in the north and the Germans in the east. Today the town has 120,000 inhabitants. It is the oldest industrial city in the Netherlands and its factories employ half the working population. The central administrative offices for the province of Limbourg are in Maastricht and it is also the supply centre for the southern part of the province and the neighbouring regions.

In 1970, the Netherlands government decided to found a university in Limbourg and this took a concrete form when the country's eighth Faculty of Medicine was set up in Maastricht. It has long been apparent that the Netherlands, situated as it is at the intersection of three cultural regions, also had to have the best possible representation in the scientific field. In addition, the government's decision to select the town of Maastricht, rather than any of the other candidates, as the site for the new university is due to a desire to offer some form of compensation after the rapid closure of the collieries in the southern part of the province over the last few years. The agreement to found a university is proof of the desire to make available new socio-economic outlets in a region where, for several generations, the only livelihood has been mining. The closure of these mines could obviously have had very severe consequences. Thus, in allowing Maastricht to become a university town, the government thought it would be able to play a more important role in the regional economy. This seems almost certain, although the effect is neither perceptible nor evident as yet.

Courses in the university have only just begun. The Faculty has 100 students and approximately 200 people are attached to the university in various other capacities. However, we may suppose that now, as it expands, the level of socio-economic development in the region will rise, and this for the following reasons:

- students and staff are consumers and they will therefore spend money. A substantial part of the total funds furnished by the authorities for salaries and scholarships will be spent within the region. Even if the university concerned is relatively small the figure could reach several million florins;
- the university needs scientific and technical supplies as well as ordinary consumer goods: and there is every probability that these will be provided by the regional economy. This then is one reason for expecting renewed development in commerce and industry;
- the university can play an important role in the labour market. It will offer jobs for scientists, and for technical and administrative staff.

It goes almost without saying that when it becomes a matter of building new premises to house the university, and possibly a university hospital, several hundred jobs will be created.

It is not only at the economic level that the university can be important to the town and to the region in which it is situated: it also has a considerable role to play in the cultural and scientific fields. I am convinced that the presence of a higher education establishment will give the region a valuable intellectual potential: scientists, economists, philologists, philosophers and doctors.

The situation I have just described to you has obviously not yet become a reality. The government decision of 1970 to set up a university in Limbourg was only ratified by the Chamber of Deputies of the Netherlands Parliament in September 1975. At the moment, the "State University of the Province of Limbourg", as it is officially known, has only one faculty - the Faculty of Medicine. But, after one year of close contact even with this single faculty, I have become convinced of the importance of integrating the university and the regional community. Already there are results in the health sector and these have certainly been fruitful.

Initially it was difficult to determine how the Faculty of Medicine could play an effective part in the public health service. As everywhere else in our country, the south Limbourg public health services were organised to meet a certain number of often highly specialized health requirements but these services were neither co-ordinated nor harmonized. Thus it was found that the same services were in some cases provided by different health care institutions while in others certain shortcomings - which no one had previously pointed out - became apparent. The Faculty for its part had no desire to add more new services nor to enter into competition with the existing institutions; it attempted to engage in dialogue with the public health service with a view to becoming integrated in it.

The public health service was in its turn aware of the need to build a more effective structure, and to achieve better harmonization and co-operation between the different authorities and institutions.

A pilot committee for the Medico-Regional Centre has been set up at the confluence of these two approaches. The members of this committee - which is attached to the public health service and not to the Faculty - come from very different sections of the regional public health service. They include representatives from six hospitals and smaller institutions, and representatives from the departments of preventive medicine and mental health. As the Faculty is the body most directly affected, it is co-operating with the pilot committee, supplying initiatives and the necessary manpower. It is expected that the results of the committee's survey will soon lead to the setting up of an effective central institution taking in the regional public health services.

One concrete result of this dialogue is the agreement between the hospitals and the Faculty of Medicine on their mutual obligation to inform each other at the outset of any plans for new projects which might be of interest to the other party. In addition the Faculty and the various public health services are co-operating in a number of ongoing projects such as detection of high blood pressure, setting up a multidisciplinary institute for psycho-therapy, and medicine relating to sport. The rapid development of considerable interest in the public health of the region would have been inconceivable without the advent of the Faculty of Medicine and without the continuous effort of community and faculty to integrate with each other in their common interest. In placing itself at the disposal of the university, the community is encouraging an exchange of spontaneous contacts with deep reciprocal meaning.

One certainly dares to hope that such a move by the regional community towards the Faculty of Medicine, and also towards the other faculties in the future, will bear fruit both for the community and for the University as a whole.

II

THE INTEGRATION OF HIGHER EDUCATIONAL INSTITUTIONS WITH THEIR COMMUNITIES

Discussion by a Panel of Experts on 15th December, 1975

Panelists:

- Asa Briggs, Vice-Chancellor of the University of Sussex, United Kingdom,
- John Evans, President of the University of Toronto, Canada,
- Lennart Sandgren, Attached to the Office of the Prime Minister, Former Under Secretary of State in the Ministry of Education, Sweden,
- Edmund Pelligrino, Professor of Medicine at Yale University, Chairman of the Board of Directors of the Yale University-New Haven Medical Center, United States

Moderator:

- Bertrand Schwartz, Professor, University of Paris IX, France.

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Schwartz:

We are here to discuss the integration of higher educational institutions with their communities and to react to the papers presented to this conference by Professor Berger and Mr. Baeten. My first question, in order to keep us from being too theoretical, is: how, or by what methods, would you integrate the university with its social, economic and cultural environment?

Briggs:

To begin with, Mr. Baeten is in a very enviable position because it is easier, I think, for new institutions than for old ones. Existing structures and attitudes tend to go on existing as they are. I don't, however, feel that those difficulties are insurmountable for the older universities. I also think that there is a big advantage when there is a regional plan of some kind.

Sandgren:

If you don't mind, Mr. Chairman, I will start by saying that it's absolutely necessary for us in this discussion to have before us the broadest concept of post-secondary education. (I prefer the term "higher education"). By that I mean to include institutions not traditionally looked on as "universities" with the traditional universities and colleges.

Pellegrino:

I would like first to add a responsibility for the traditional university. Besides its obligation to preserve, extend and transmit knowledge, I believe it has, to paraphrase the philosopher Alfred North Whitehead, a prime function which is "to create the future".

As for implementation, I find it crucial to involve community groups in planning with top-level university administrators and crucial to have the faculty committed and involved early in the planning.

Whether it's easier in new institutions or old is moot. Even if the university is new the faculty never really is. Like bacteria, faculties can "revert to type".

Evans:

I too endorse the concept of the regional university though I would like to add that I think it lends itself better to some aspects of a university than to others. On the whole I predict benefits alike for the institution and for the community.

Using the word "community" raises the question "what community?" Professor Berger's paper implies a geographical locality. I want to note quickly that for certain issues, for example pollution or international banking, the community can become a national or even international one.

I would like to stress the importance of diversity among our models. The old universities may develop this concept in ways differently from the new ones. They may develop a different balance between the three forces identified in Professor Berger's paper. I think that such diversity is good, not bad.

Schwartz:

Does someone want to suggest how we can effect this concept in the old institutions?

Evans:

Since I put the question, let me start. I see four major obstacles. The first is that both the stimulation and the rewards being in specialization, faculties have tended to focus on scientific development or research rather than local concerns. The second is that with tenure the stability of faculty mitigates against change in our principal intellectual resources. The third is authority relationship in administration. And the fourth is limited funds and the absence, generally, of local representation in the sources of financing.

Now, how to overcome these obstacles and accelerate change in existing institutions? One step could be solving a community problem and thus gaining relevance and eminence at the same time. An important need, of course, is pressure from community and government. New organisational structures - such as matrix management in which there are numerous authorities and not a pyramid of power - permit flexibility and a non-threatening system for community integration. Another useful step is to set up a research programme on this very subject to involve students and faculty in the process. These are not theoretical points. Each of them has been tried and proven.

Briggs:

To my mind a change in attitudes is necessary before there can be a change in structures. I've noticed an increased interest in medical faculty and students since, say, 25 or 30 years ago towards the community dimension of their work. There are of course all kinds of impediments to this trend, as John Evans mentioned. Another one is that education and health are administered separately in most countries.

I want at this point to stress the importance of a university being a centre for initiative. It must not be, or be considered, a mere message centre for community ideas or a mere service station. That initiating role is significant.

Pelllegrino:

Initiative is another way of putting what I tried to say at the beginning in quoting Whitehead about the responsibility of creating the future. In order for the initiatives to meet the community's problems, however, the community must participate in the way unique to its social role - this means adopting a stated, coherent approach, involving faculty and taking a critical stance, critical regarding not only the problem but also the society within which it exists. Next the university should be willing to take the risk of developing a model solution, evaluating it, and then teaching it, including its faults. In this way society and professionals will be aware of their options.

External forces, I feel, are the crucial ones in getting a university to move in this direction.

I got the idea from Professor Berger's paper that some universities - I think he called them monodisciplinary - might be exempt from integration with their environment. I think no university should be excused from this responsibility. That is not to say, however, that the university is a panacea for social problems.

Briggs:

I absolutely agree. Just because our subject relates to interdisciplinarity, I hope we won't leave the single discipline institutions stranded, especially as many of them are in the process of change.

Evans:

Let me disagree. To try to homogenize all the universities and have them follow one pattern is a great mistake. Some universities will not do well the sort of things Dr. Pellegrino has been describing. The idea of pushing Oxford University, for instance, into a massive regional development programme doesn't appeal to me.

Pellegrino:

I agree with you and am myself an opponent of homogenization, of what I call the "Waring blender approach". What I said was that no university should be excused from "responsibility". This is not the same as a total university effort in any one direction.

Briggs:

I'm glad John Evans has introduced some disagreement in this discussion. I didn't mean to imply, however, that I am not very much in favour of diversity. I believe that there are many different ways of realizing the concept we are talking about.

Sandgren:

Your disagreement confuses me. I thought we were talking about a coherent system for higher education into which the interdisciplinary problem-oriented institution would readily fit. But most of you seem to be talking about a "free market" in which competing institutions develop improved higher education. In my opinion, improvements should be the effect of fruitful competition between the old and new concepts, but within an institution.

Schwartz:

Following what some of you have talked about as the role of the university, I would like to know "who" is the university? And, if the university is to discuss with the community, "who" is the community?

Briggs:

I think it's no longer possible to draw a sharp dividing line between university and community because of several changes, including much bigger enrolments. We now have varied university-community relationships. I like this diversity and am against adopting one pattern nationwide. Furthermore, I want to add that, within any community participation system, I'd like to see included not only the people who hold power in that community but also the people who may have no power whatsoever.

Evans:

To discover who the community is in Canada we have developed structures on the regional level through which the community is represented. It's been slow in coming but it does offer a great advantage to be able to work with a continuing group, which may include political representatives but which is distinct from the changing local political body.

To take a different direction, I'd like to try to strike a little controversy with Dr. Pellegrino. It's been my experience that universities often fail to respond to community issues out of limited interest. A project may be started with only, say, administrative commitment, and fail from lack of follow-up even though it had attracted funds. One example in my institution is a pollution probe programme in which, I think, there's too much interest in the problem and the project and not enough in the process involved.

I'd like now to make three rather radical suggestions. The first is the obvious one, which we have been discussing, that calls for joint planning by administration and community representatives. The second is for a "Chinese sabbatical" (so called because the idea comes from the People's Republic of China). To make faculty members both more aware and more involved, they could be given a sabbatical to work, as specialists of course, in the community. The third suggestion is to extend field work for students. If non-professional community work were a prerequisite for community service programmes in health, selection for these over-applied-for programmes would be easier. I'll stop here and reiterate that student and faculty commitment as well as administrative commitment is essential.

Pellegrino:

Well, Dr. Evans, I'd like to disagree but so far we haven't found the grounds. I agree with you thoroughly about faculty. We must appeal to their enlightened self-interest and offer them professional advancement opportunities. Another way, besides the Chinese sabbatical, is an examination of the university's mission by its own faculty. Their intellectual involvement starts there and then advances to some sort of engagement with reality.

The second question was "what is the community?". I don't think there's any such thing as "the community". We work with the community that's available and immediate. Apart from the universities with international scope, I think community must be limited to a geographic locality.

Sandgren:

The interpretation of our integration concept will necessarily vary according to what "region" means, which of course depends on the size of the country, population distribution and so on. Once "region" is understood, it is certainly necessary to get the broadest possible representation from it as well as from the university. In Sweden's higher education reform, local Boards and Programme Committees are to be set up, which will include union, management and other representation. They will be responsible both for quantitative and qualitative planning as well as for the policy at local level. Groups from outside the higher education system will thus for the first time get considerable influence even on questions of admission. This move is in the framework of closer co-operation between higher education and society at large.

Briggs:

How do you envisage the relationship between health and education in that kind of planning apparatus?

Sandgreen:

As health and education are both public responsibilities, that becomes one of the simplest combinations.

Schwartz:

Professor Briggs mentioned involving even powerless people, which usually means people without much formal education. Does this also mean that we accept the idea that the university should teach such people? In most countries they can only go to primary school teachers if they want to learn.

Evans:

The problem that you raise, Mr. Chairman, like health, fits the regional concept very well. Toronto, for example, has a large immigrant population and a big need for adult education, distinguishing it from other regions. Its priorities are therefore different. The regional approach permits each region to develop according to its unique needs.

Pellegrino:

Yes. That's why I emphasized geographical locality ealier. That community's concerns become then the concerns of the local university too.

Schwartz:

Let's move on to "risk". Dr. Evans mentioned partial commitment on the part of the university. What are some of the other risks?

Evans:

There is in fact a whole series of risks. My faculty hands them to me every day! One is that the university will not deliver on its commitments to the community. Another is that it become a service station. A third is that it become too parochial and isolated from learning and research elsewhere. A fourth is that it lose objectively by becoming a working partner, so to speak, in society's projects. A fifth is preoccupation with immediate problems at the expense of longer term problems. The last one I'll list is the one that worries me the most. It is that the regional institutions we're talking about will ossify like so many previous programmes. I suggest therefore that they be functions rather than structures and thus perhaps retain the flexibility to serve the purpose originally intended.

Pellegrino:

I'd like to make several points here. One is that there are intellectual and academic benefits for the faculty in community involvement. Recently, in the US we have even brought humanist scholars into medical schools and hospitals. They have found there a great stimulus for their own research and cogitations through contact with immediate problems.

To the risks mentioned I'd like to add the danger of suggesting an all-or-nothing choice for universities in community involvement. I disagree with Dr. Evans that objectivity is lost through involvement in problems that are bothering people. Of course the university must always be able to criticize, to be a "delegated intellect" as Ralph Waldo Emerson called the scholar. All universities must consciously decide which problems to address. Emphases will vary depending on the interests of the faculties.

Sandgren:

There is one point Dr. Evans mentioned that I find particularly significant. It is the function that is the important thing. That's why in Sweden we have chosen to create programme committees to watch over functions rather than to create new institutions.

To the list of risks I want to add that universities not ready for this "new scene" may become isolated, and thus influence the authorities and the politicians against this new concept.

Briggs:

Agreed! That's the biggest risk of all. The balances in a university system are quite different from those in a political system. If we accept the balance of vectors Professor Berger describes, we see that the university must concern itself with social functions. I feel that because of this balance it has a better chance, often, than political systems of interpreting social needs. "The university" is of course hard to define as faculty members will never all agree with each other or with the administration.

I too agree that we are talking about networks, about various potential resource networks, rather than buildings.

Schwartz:

We have 7 minutes left. Let's talk about how we can change the actual situation in our universities, how to begin.

Evans:

Mr. Chairman, when I analyse my own experience, I find that the success stories were projects with faculty fore-knowledge and student support, and that the failures were usually the ones initiated by the administration. Waiting for faculty initiative, however, can make even the administrators impatient, not to mention the community! That's why we must start rotating faculty members out into the community. For that we need systems for paying them and ways to prepare the community people to accept them, to avoid feeling threatened. Once established this will ensure a steady flow of information to the university about true community needs.

Schwartz:

Any other suggestions?

Briggs:

Well, tomorrow we shall be hearing about specific experiments of health education in the context of regional health care and these should give us a pool of actual experience to draw on.

I agree with John Evans that becoming parochial would be to fail in taking advantage of an exploratory activity.

Pellegrino:

I don't find parochialism a real threat. In science, for instance, some of the most interesting discoveries, like Pasteur's, came from mundane problems. In the world of the intellect we can go to the abstract from any concrete series of events if we have the ingenuity and the capacity.

Sandgren:

In my country we are lauching the reform I mentioned in July, 1977, the aim of which is to increase gradually the integration of higher education with society and vice versa.

Evans:

We should go back to the balance of the three forces in Professor Berger's paper. What strikes me is that if there's an imbalance, it's certainly weighing against regional or local commitment. We have to strengthen that vector before anything else. It's in the university's interest and in the community's interest. I agree with Pellegrino that exploration of issues of local relevance will provide just as significant opportunities for universities to achieve intellectual eminence as the more conventional fields of scholarship in which most universities are engaged.

Part Two

HEALTH AND SOCIETY

I

APPROACHES TO THE ISSUE

1

THE AMBIGUITIES OF THE HEALTH CONCEPT IN INDUSTRIALIZED SOCIETIES

by

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Foreword

This paper was made available as documentation for the Conference and provided the basis of my address on 16th December during the second plenary session. It is in three parts: the first is a text prepared for discussion at a preparatory meeting of nine experts on 29th and 30th September 1975 at the OECD in Paris. The second analyses the principal comments and criticisms put forward at that meeting. Part three lists a number of problems we felt relevant for discussion by the panel of experts (see following Chapter II) and the working groups in the course of the full Conference in December.

I. BASIC REPORT

1. Introduction

In less than 50 years, the clear picture of health as opposed to disease, enhanced by various intimations that health is also a certain pleasure in living, has gradually darkened to the point where some no longer hesitate to question the effectiveness of investments in the health field, or claim that these investments are primarily designed to develop the diseases needed for the growth of the health system.

This decline in the prestige of health has been accompanied by an attempt at economic organisation designed to achieve an objective definition of the analytic criteria on which to base coherent planning of health organisation in the industrialized countries.

This attempt at organisation in a sector which is psychologically sensitive in all communities has not been achieved without numerous difficulties and clashes. Social claims regarding the right to health have come up against the obvious problems of cost and investment, while the numerous studies by economists and sociologists aimed at demonstrating objectively the effectiveness of therapeutic or preventive action in the health field were interpreted by the professionals as a fundamental questioning of their competence.

Today, the degree of confusion reigning in the health field can be judged from the definitive attitude adopted by a certain number of specialists in expressing the most divergent opinions. None of them are prepared to take into account the observations made by other schools of thought so that it is possible nowadays, depending on the author, to claim that the health system functions remarkably well or remarkably badly, that disease is growing rapidly or declining rapidly, and that people are all healthy or all ill, without its being objectively possible to make a lucid choice among all these views. It can at least be said, by way of a preliminary conclusion, that the whole question is somewhat nebulous and that the passions aroused in connection with health are as great as the uncertainties.

The object of this report is not to take sides with one or other of the current tendencies, but to try to distinguish the main themes which seem at present to typify the health field. Without seeking to be exhaustive, its aim is to encourage objective thinking in a particularly important and significant socio-economic sector.

2. Factors of conflict in the health sector

It is worth pointing, to begin with, to the various conflict situations which occur in the health sector in so far as these different conflicts reflect the many ambiguities which prevent a clear analysis of the situation. Attention will be centred mainly on:

a) Conflicts of interest

Taking the work interest mainly in its financial sense, we must emphasize that the increasing share of government and household budgets being devoted to the health sector is bound to cause conflicts linked with the interest and opportunities of enrichment. Public opinion is mainly sensitive to the concept of incomes in the medical profession. In recent years, however, various press campaigns have drawn the public's attention to other professional categories whose incomes from the health sector are likewise far from negligible (manufacturers of pharmaceuticals, manufacturers of various appliances, constructors, etc.). In some countries, where insurance remains at the discretion of each individual, there are also substantial profits to be made in the sickness insurance sector. In short, the interests involved in the health field are commensurate in every country with the health budget of the country in question, i. e. considerable. For reasons which are sometimes highly debatable, public opinion has been alerted to the notion of profits made by different professional categories. Several of these conflicts can be linked with ideological or ethical conflicts, as will be described below, but many of them are suggested by professionals who want a share in the earnings to be made in the health field. It will be pointed out that in both the public and the private sector in all countries there is a trend towards the proliferation of experts in management, financial analysis, accounting, forecasting, short and long-range planning, etc. , who are gradually increasing expenditure in the socio-economic health sector without helping in any immediately obvious way to improve either its output or its efficiency.

By comparing the distribution of jobs and expenditure throughout all the sectors connected with the health field, it is easy to see that expenditure in this field has been increased to the relative detriment of the share of income initially reserved for professionals directly involved in diagnosis or treatment (doctors, specialists, dentists, pharmacists, health care staff). Coupled with this relative decline in incomes, there has been a continuous growth of expenditure in the fields of management, industry, insurance and administration, as well as in a series of branches related to the health sector.

Under the influence of sometimes impasssioned currents of opinion, the health sector has been induced to increase its capital expenditure considerably, thus gradually distorting the distribution of health facilities, even though this distortion does not really correspond to any clearly defined need. An example of this is the breakdown of expenditure on medical care between the hospital and non-hospital sectors. For approximately 2% of all care, hospitals account for between 40 and 50% of appropriations. This breakdown inevitably implies the gradual impoverishment of the non-hospital sector which defends itself by seeking increasingly sophisticated techniques, this in turn being detrimental to the organisation of primary care in the non-hospital field.

Tied up with these conflicts of interest are the many controversies between doctors and non-doctors as regards expenditure, between the private sector and the public sector, between therapeutic and preventive medicine, etc.

b) Conflicts of power

Another dimension of the conflicts which exist in the health sector has to do with a concept of power which is not yet clearly identified from the psychological point of view and is linked with the authority that the medical act confers on a certain category of individuals over the lives of others. This power concept has been exalted by numerous achievements in the medical field in recent years and by a long historical tradition of medical authority. Many aspects of the power conflicts have emerged over the last few years, inasmuch as the classic doctor/patient relationship, with all the ambiguities of the patient's subordination and almost blind submission to the doctor, has been gradually transformed by the appearance of the money factor, usually in the anonymous form either of an insurance scheme or of the public authorities. Over and above the conflict of interests referred to under the previous heading, power conflicts took a critical turn when medical authority found itself challenged by the administrative or financial authorities. There can be no doubt that in any event the patient's position is by far the weakest. A new trend may be observed with the tendency among some sociologists, psychologists or philosophers to try to restore the power of the individual.

The scale of the power conflicts should not be allowed to hide the importance, from the point of view of therapeutic effectiveness, of the notion of multiple transfers - including that of power which is implicitly recognized by the patient in his demand. The progress of modern psychology clearly demonstrates the ambiguities of the transfer established between the patient and his doctor and the importance of the mutual enrichment occurring in the medical act. Nevertheless these ambiguities are inherent in the very foundations of the medical act, and any "objective" attempt to eliminate some of its psychologically subjective aspects may relate not to the interests of the patient but to the questioning of the subjective aspects of medical power. The vehemence of the various controversies that have marked the last few years amply illustrates the importance of power conflicts in the health field. It should no doubt be recalled that the very ancient historical tradition which has shaped the special relationship that exists between doctor and patient in many industrialized societies cannot be attributed solely to financial gain. This relatively recent phenomenon has attached itself to a long tradition of psychological relationships where money acts as a very subtle currency of "transfer and liberation" which has been remarkably well analysed by modern psychological approaches to this relationship.

c) Conflicts of ethics

A third category of conflict can be placed under the heading "conflicts of ethics", i. e. conflicts relating to a collective or individual conception of the value of life and the cost of health. The conflicts that occur in this area are probably even more acute and impassioned than would appear at first sight, in so far as individual or collective approaches to the notion of life and the relative significance of disease and health may be radically different and indeed may have no common measure or language. Among these conflicts of ethics we may include all the arguments about the right to life, the right to death, euthanasia, voluntary abortion, the right of survival for the disabled, the infirm, the aged, and the mentally sick, and about what is normal and what is pathological in the physical, psychological and mental fields. It cannot be denied that in all these controversies reference has been made to the contributions of ancient philosophies, religious morals, the right of survival of minorities, the right of the strongest, etc.

Conflicts of ethics frequently take on a political or religious dimension. They are undoubtedly essential in that they gradually indicate the minimum common terms which characterize, at a given point in time, the conception of the value of life and of the price that a community is prepared to pay for the various categories of critically or chronically sick for which it is responsible.

3. Medical and biological dimensions of the health concept

Among all the factors which shape a community's conception of health, it seemed reasonable to suppose that the medical and biological approach would make it possible to define the term objectively, all the more so since the transition from health to sickness was perceived as a sudden break in equilibrium in the one instance, and as the end of an unpleasant episode in the other.

Unfortunately, this clearcut contrast between health and disease has not been confirmed by the astonishing progress made in the biomedical field over the last 40 years. On the contrary, the progress of numerous scientific disciplines in the medical field has made the situation increasingly complicated insofar as they have clearly demonstrated that the situations of health and illness, as experienced by a patient, were sometimes very different from what could be observed with the help of increasingly refined and scientific means of investigation. If it is now admitted that some serious disorders like degenerative diseases or cancers can develop quietly for more than 10 years, it would seem difficult to sustain the notion of absolute healthiness and the guarantee of the absence of any disease. Scientific ignorance with regard to such serious diseases leaves one very uncertain as to what to understand by health. Figure 1 represents an attempt to reinstate this approach by means of a curve which describes the evolution of a physiological state through the various possible situations up to the constitution of a clinical chart of an illness clearly perceived by the patient and by his entourage, including the doctors. This curve illustrates all the ambiguities of the present concept of health, insofar as the growth of knowledge in the field of pathology tends to present each individual as a biological complex incorporating various inherited or acquired forces, all capable of combining to produce a state which is or is not compatible with survival. In all cases, the concept of normality comprises a margin of uncertainty which varies in extent according to age.

At the extreme limit, the trend of medical and biological knowledge profoundly questions the notion of any contrasting distinction between health and disease, and makes it possible to develop a much more logical concept of a dynamic equilibrium, evolutionary in nature and permanently combining genetic potential, adaptive capacities and a multitude of attacks from external sources.

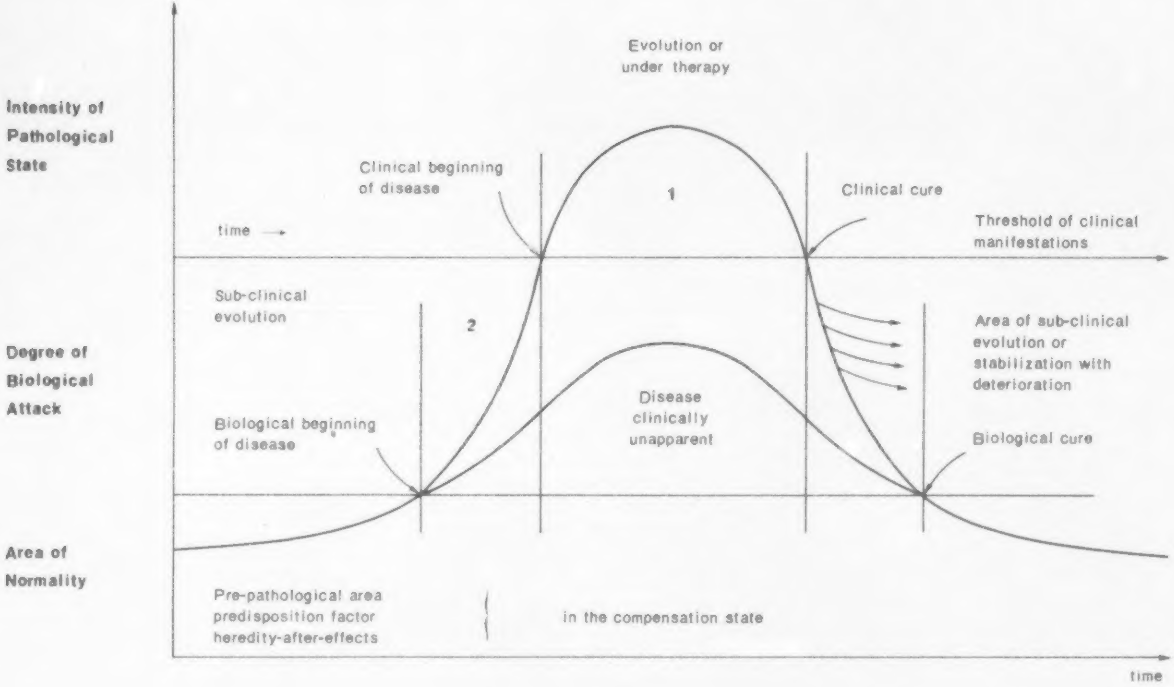
From the medical and biological point of view, the concept of health will easily be replaced by the concepts of the "compensated state and dynamic equilibrium".

In the state of compensation the organism has the physiological possibility of incorporating an attack or a pathological element in a physiological unit so that this deviation from the normal state can be circumscribed and causes no imbalance perceived by the patient as a pathological state. This notion of compensation is part of the very concept of health. An organism's tolerance is expressed physiologically in relation to a great many physical and psychical attacks; health is the reflection of the capacity for tolerance, compensation and adaptation.

Conversely, the transition to a pathological state is indicative of an imbalance or decompensation representing the last straw which breaks the camel's back. When this happens, the organism is no longer capable of limiting a pathological evolution. What is more, the notion of decompensation implies that the various mechanisms by

Figure 1

STAGES IN THE DEVELOPMENT AND ABATEMENT OF PATHOLOGICAL CONDITION


Evolution or
under therapy
Intensity of
Pathological
State
Clinical beginning
of disease
1
Clinical cure
time →
Threshold of clinical
manifestations
Sub-clinical
evolution
2
Area of sub-clinical
evolution or
stabilization with
deterioration
Degree of
Biological
Attack
Disease
clinically
unapparent
Biological beginning
of disease
Biological cure
Area of
Normality
Pre-pathological area
predisposition factor
heredity-after-effects
in the compensation state
time

which the organism could have compensated for the attack or disorder are acting negatively and accentuating the pathological phenomena. Hyperthermia is a compensatory mechanism for fighting an infectious state; however, fever is one of the symptoms clearly felt by the patient and considered pathological. Doctors know very well that fever is an extremely valuable compensatory mechanism but one which can, because of the disorders it engenders, itself be the starting-point of a series of new biological imbalances capable of leading to more serious disorders and even death.

The conception of the transition from a normal to a pathological state, analysed from the physiological and biological standpoint as the transition from a state of compensation to one of decompensation, allows one to understand how a substantial number of minor pathological situations clear up spontaneously. This notion also explains the role of many drugs which can strengthen the body's resistance and compensation capacity and do not really fight the cause of the infection.

This development of the concepts of health and disease, under the influence of numerous biological and scientific findings in the health field, carries with it the obvious dangers of spreading the idea that health does not exist and that every individual is a potential carrier of many diseases. While this notion remains scientifically valid, it must be refuted at individual level inasmuch as health is still a contemporary physiological concept of the compensation state - which is clearly perceived at individual level.

The fact remains, however, that the ever-increasing body of knowledge about the sub-clinical evolution of disease makes it necessary in specific cases to set up elaborate methods of detection and prevention. The main drawback with these methods of detection are that they cast doubt on the patient's idea of his health and require the doctor to persuade the patient that he is ill, even though he does not feel it. This aspect of medical treatment is paradoxical but necessary. It gives rise to the obvious accusation that the medical profession is extending its power over the healthy; however, the body of clearly established objective data on the evolution of sub-clinical disease and on the effectiveness of therapy at this stage quite invalidates this type of argument, once doctors show scientifically that their action in detection and prevention is well founded.

4. Economic and social dimensions of the health concept

The right to health is one of the most dearly acquired social rights of industrialized societies. Equality in the face of illness and death is an idea which remains firmly rooted in industrialized societies. The extension of the community's responsibility for the sick and infirm illustrates the scale of social demand in this field.

Policy-makers have not failed in recent years to observe the constant growth of expenditure in the health field and the vehemence with which the demand for care can be expressed. After a period of vain hope that massive investment in the health field would satisfy all demands for care, every country was obliged to recognize the need for a genuine health policy aimed at balancing demand and response and encouraging investment on the basis of options clearly defined at national level.

In practice, the effect of this period of rationalizing investment and expenditure and accepting responsibility for disease and infirmity was to create a new socio-economic sector which came into competition with those already in existence (education, housing, transport, recreation, etc.). In this sector, income and expenditure mechanisms function in a rather subtle manner since the community as a whole tends through insurance schemes to cover the health expenditure occasioned by the declining health of the minority. At the extreme limit, the effect of several insurance schemes is that the healthy pay for the sick, while the latter suspend their payments as long as their health is impaired. The social system often includes responsibility for the loss of earnings of the sick person; this varies according to the income, the country, the terms of the insurance and the type and origin of the disease in question.

Since the inevitable inequalities of the various systems usually operate to the detriment of the poorest people, the public authorities have in many instances had to act as arbitrator and sometimes co-ordinator. This trend has in many cases facilitated genuine research into the economic and social approach to the health/sickness field.

Economists and sociologists have used a series of tests, statistics and surveys in an attempt to define criteria which would enable the public authorities to be constantly aware of the trend of demand and its satisfaction by means of investment and facilities.

It has to be recognized today that attempts to establish health indicators in both the socio-economic and medical and biological fields are encountering mounting difficulties. In fact, it is necessary to stress the inadequacy of socio-economic health indicators by comparison with the growing volume of investment and expenditure; it is only through a still rudimentary approach that economists and sociologists have managed to formulate a socio-economic definition of health and disease.

Already, however, the constraints of the socio-economic system are compelling these specialists to introduce into the health field the notion of choice and rationalization, which are discrete forms of restriction on the right to health according to social or economic criteria.

It is easy to understand how this new form of hold over the health, illness and life of other people represents a form of power which can come into violent conflict with the power traditionally wielded and claimed by doctors.

This gradual socio-economic "packaging" of the health sector fully explains the power conflicts described above, but carries with it a greater danger. Clearly, those responsible for the socio-economic side of the health sector are tempted to define human existence from an utilitarian or even a political standpoint. By the very nature of the investments they are led to promote or restrict, these people have a direct influence on the survival chances and actual quality of life imposed on different categories of individuals who are not themselves capable of ensuring their own physical, mental or social independence. There are numerous examples of the dangers to which whole sectors of populations "at risk" are exposed as the socio-economic system becomes increasingly structured. A particularly demonstrative example of the dangers that may be generated by an inadequately controlled trend is the current problem of the "social death" of old people. Once an individual ceases, because of his age, to exercise an economically meaningful activity, his social situation goes into a virtually irreversible decline. The big drop in income means he has to find new ways of ensuring his survival, which gradually force him away from his centre of personal, psychological, affective and ecological equilibrium. Referring to the decompensation concept described in connection with the biomedical approach to the health question, we can see that on the socio-economic level the old person is on the point of decompensation. The slightest physical, psychological or social incident will force him out of his area of equilibrium into one of pathological decompensation. Whatever the starting-point, the main danger is of triggering an inexorable process of social elimination which is a prelude to the psychic and physical elimination of the individual. The social death of the elderly is the typical result of the socio-economic elimination of an individual through the destruction of his personal, social and affective equilibrium and the disappearance of his environment.

The emergence of a socio-economic dimension in the health field has facilitated its "politicisation". Health has ceased to be a traditionally neutral sector and become a battlefield for a sometimes acute social conflict; the right to health has gradually been joined by a "right to illness", once this has become a community responsibility. This explains the failure in some countries of preventive treatment against influenza in various social categories - the seasonal break being seen as a right and as justifiable recuperation at the employer's expense. Some economists have even established the cost to the community of workdays lost because of illness among employees, and have calculated the loss of earnings; in their eyes these findings justified further investment in the health sector.

Since the beginning of the present economic crisis, political and economic analysis shows that stoppages because of illness are an undeniably important factor of partial decline in activity. Without taking sides, it is possible to conclude from these observations that the socio-economic importance of the health field is indeed great: the social situation and economic value of each individual depend directly on his maintaining a state of health compatible with a recognized socio-economic activity. This socio-economic assessment of the value of each life has undoubted repercussions on choices and financing programmes in the health field.

In short, the volume of the financial interests involved and the social, economic and "political" importance of this sector explain why any significant development or innovation is perceived as a major topical issue and is felt at all levels of the community.

The main danger still is if the community should force the health sector to become no more than a socio-economic sector dependent on options and choices of a political nature. There are many examples to show that this danger must not be under-estimated.

5. Individual dimensions of the Health Concept

Both the biological/medical and the social/economic approaches show that the concept of health is meeting increasing difficulties making it less and less easy to define.

However, there is a third approach to the health concept, the principle of which is that health is related to the concept of existence and that existence is specific to each individual, each destiny being obviously unique. Beyond the statistical representation of existence and the value of life, there remains the fundamental question of the significance that each individual attaches to his or her own existence and to that of others.

No community seems to want to face up to the essential problem that lies hidden behind the concepts of health and disease, namely that each human being is mortal and has no possibility of voluntary intervention in either the beginning of his existence or its end (if we rule out suicide). This predicament, over which each individual has only relative power, presents a most agonizing problem for representatives of industrialized societies whose continuous progress is based on a growing mastery of all natural or artificial phenomena. In the case which concerns him most personally, man is still utterly powerless. The tendency of modern society to dismiss as an unpleasant contingency one of the major determining characteristics of human existence, i. e. its inevitable course towards death, is a quite astonishing mechanism of collective hypocrisy. Once the community tends to shut out this evolutionary aspect of human life, it becomes necessary for the analysis of each individual's situation to be so defined that the transition from life to death appears as a particularly violent and unforeseen blow of fate, in conflict with all the most firmly established laws of society, economics, biology or science. On this basis, death - being an accidental occurrence - can be classified among other accidents, which can very well be analysed, at technical and economic level, using various computational techniques allowing for wear and tear and accident probabilities.

The fact remains that the community's approach to concepts of health and disease leaves the individual profoundly at a loss in the face of his own destiny. In particular, it is only the sick who are capable of describing the extent to which sickness has meant, for them, a break in equilibrium, a transition to another state. It is this other state that presents the basic problem: the sick do not have the same idea of health and sickness as the healthy who, in socio-economic terms, form the category that counts. Health and sickness are defined purely from the viewpoint of the healthy. It is, however, the unfortunate lot of every individual to have to move, as time goes by, out of this majority group and to follow an individual path along which he discovers how wrong are the notions of health and sickness held by people who are well. In particular, it seems strange that once the course of one's life takes the difficult and painful pathways of ill-health it ceases to have any value in the eyes of the community. Suffering, infirmity, erosion of the capacity to survive, the gradual loss of self-sufficiency, and the deterioration in the ability to relate, force each individual to look for his own solutions and compensations, and these are sometimes of considerable value. Who would deny that a spastic can experience deep pleasure or intense satisfaction, probably of a much higher human value than a person in good health who has no notion of the preciousness of life or of the cost of effort?

In the extreme case it is possible to say with the ancients that life is good only when one is beginning to lose it. Similarly, it could be said that no man really knows the value of life if he has not suffered or been in real danger of death. It is this deep and inner experience that gives life its full meaning that only the sick, disabled, weak and aged could communicate to the majority in good health. Unfortunately the healthy have a stereotyped picture of their health and sickness derived from the collective daydream from which they will awake one day when their bodies tell them brutally that they must now accept a new stage in their evolution and, implicitly, that their organism must, by its very nature, perish. This sudden realization sometimes brings about an astonishing personal change enabling many of the sick to enjoy the remaining part of their existence with an intensity that many of the healthy might well envy them.

This dimension of the value of life, felt to the full when it is the subject of a continual struggle, is unknown to those in good health.

In short, the value that individuals attach to life in the course of their existence, depending on their education, their sensitivity, their experience and the changes that life brings, is outside the scope of most evaluation techniques. The essentially subjective value of life as each individual assesses it directly affects his approach to the concepts of health and sickness. In the extreme case, the socio-economic or medical approaches to health and sickness may well dispossess the individual of the only good that really belongs to him - the right to live his life as he pleases without being answerable to anyone. Of course this simplified approach takes no account of the notion of personal responsibility for one's life or of the notion of needless risk, the bill for which will eventually have to be paid by the community. Accepting the priority nature of the individual approach to the value of life necessarily implies, in return, the development of an individual's sense of responsibility for his own life. Few industrialized societies have yet developed techniques for arousing individual responsibility with the object of curbing irresponsible attitudes and the taking of excessive risks. Some even promote the danger of illness on the basis of dubious economic arguments (winegrowers' standard of living and the consumption of alcohol in France, etc.).

In the extreme case, the position in which the individual is confined with regard to his own existence may be analysed as a conflict of power to the extent that both medical and socio-economic structures tend to dispossess him of the right to an individual evaluation of his own situation. This dispossession undoubtedly contributes towards individual irresponsibility in relation to health and sickness and is an insurmountable obstacle to any health education designed to reduce the demand for medical care through a better appreciation of the individual's own responsibilities in this field.

6. Basis for an analytical approach to the concepts of health and disease

The above paragraphs outline the main medical, biological, economic, social and individual characteristics of the health concept. It is already apparent at this point in our brief analysis that the concept of health as it has been developed over the last thirty years comes up against some insurmountable obstacles. Its assimilation to the absence of disease does not stand up to the current trend of medical knowledge which argues that the absence of disease is probably a subtle euphemism, if one agrees that the organism is subject to the constant stimulus of many morbidity factors to which it usually reacts by restoring equilibrium without any clinical symptoms through the mechanism of the compensation principles referred to in the earlier part of the report.

Assimilating health to a feeling of physical, mental or social well-being further complicates the problem to the extent that it involves the completely subjective dimension of happiness, implying thereby that any frustration, whether physical, psychological or social, may be regarded as a morbid state. This general extension of the concept of disease to all the problems of a community leads to the misconception that the satisfaction of the many desires that modern society is capable of generating is essential to health and that their frustration in any shape or form should be treated as a morbid state. Taken to the extreme, this medicalisation of the whole of the social and economic system leaves the problem untouched since such a definition of health puts its attainment or conservation beyond all reasonable hopes for an individual during his lifetimes.

Thus the problem may be stated in these terms: how can we define a state reasonably tolerated by most individuals and characterized by a minimum of physical, psychological and social constraints representing statistically what might be called the "health of the unhealthy"?

Over and above the intentionally provocative nature of what has been said, we still have to find a coherent definition of the concepts of health and disease and look for ways and means of analysing the current dissatisfaction in industrialized societies at the increasing size of the public health bill. The theory argued in some quarters that the growth in expenditure itself generates an objective and subjective deterioration of health does nothing to resolve the problem.

a) Breakdown of factors of morbidity

In a first approach the main causes of disease and death have to be correctly related to natural phenomena or possibly to artificial phenomena bound up with the development and organisation of the community. This distinction is vital to the extent that most of the work and progress that has been accomplished in the field of health relates to natural morbidity. The success of measures of hygiene and vaccination campaigns, better knowledge of many infectious diseases, and the appearance of drugs of unquestionable effectiveness have steadily reduced the causes of natural morbidity to an extent incommensurate with observations among primitive populations. Industrialized societies have unquestionably succeeded in radically altering the frequency and seriousness of many natural disorders. Admittedly, there is still a hard core that is increasingly difficult to reduce in the field of natural pathology, but this is a phenomenon specific to human nature where it is difficult to distinguish progressively between natural morbidity and the erosion of physiological or mental capital (disease linked with ageing or with various degenerative processes).

But the group of disorders linked with the development and organisation of communities is a very different matter. This artificial morbidity, increasing at a mounting pace with the development of community organisation, embraces the most widely differing causes including road accidents, over-nutrition, excessive alcohol and tobacco consumption, air pollution, mental disorders bound up with the organisation of community life, and so on. There is a wilful tolerance of such disorders by the community which regards them merely as the drawbacks accompanying the advantages of economic development. There is no doubt at all that individuals as well as communities tend to accept the majority of them as part of the price to be paid for economic development. This reprehensible attitude has been condemned by many specialists from different backgrounds.

Preventive action in this case could have a decisive effect on the trend of the morbidity profile of industrialized communities.

However this may be, morbidity linked with economic development does much to blunt the effectiveness of medical action in the field of natural morbidity insofar as its increase offsets the decrease in natural morbidity, which is now approaching its limit (Figure 2).

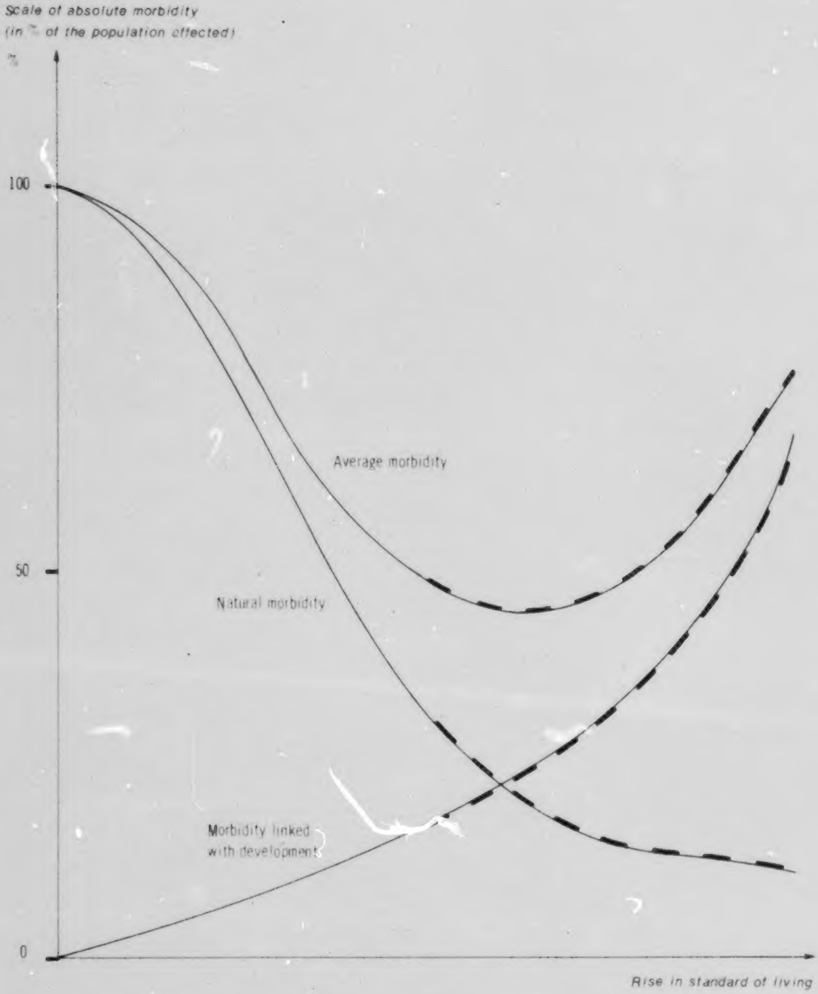
b) Tolerance and intolerance

Though no attack is intended on the definition put forward by the World Health Organisation, it must be recognized that to define health as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" means by implication that it is physiologically possible to guarantee a state of health that is totally free of all disease. This concept of health as opposed to sickness is, unfortunately, no longer acceptable. This being so, the concept of absolute health must be disposed of once and for all. In its place should be put the concept of relative health defined as a state of health which may include some percentage of morbidity. This concept of relative health is clearly perceived by the community when it equates the concept of health to the absence of disorders perceptible to the individual. Unfortunately, since the medical profession teaches that the individual's subjective evaluation of his or her health can clearly be proved wrong, with the help of the many facilities for investigation that exist today, it has to be admitted that the concept of relative health is a variable closely related to the resources available to the community for the objective assessment of each individual's state of health.

An analysis of the health situation of many populations with a low standard of living shows, in contrast with the idyllic picture painted by some authors, that poverty or survival in natural conditions devoid of any technical aids is generally accompanied by a very poor state of health: high stillbirth frequency, short lifespan, prevalence of infectious disease in epidemic outbreaks or endemic centres, etc. Probably the large number of deaths in the first years of life explains the existence of particularly strong survivors who, being the only ones capable of reproduction, tend to be the agents of a process of natural selection; this is presented by some authors as proof of the effectiveness of natural laws as compared with the artificial health systems developed by the industrialized societies.

Whilst there is no intention of taking sides on this question, it must be said that populations with a low standard of living show astonishing tolerance to disease. Generally speaking, the majority of the population is affected by disorders of various kinds which they do not regard as diseases: parasitic infestations, skin disorders, disturbances of the respiratory system, cardiac troubles, disorders of the urinary and genital system, reproduction and pregnancy difficulties, mental illness and various psychological disorders, etc.

Figure 2



Resultant "average morbidity" probably passes through a minimum.

The disorders relating to certain specializations are not even identified by the community; kyphosis, scoliosis, various other types of bone deformations, anomalies of growth and stature, dental troubles, defective hearing and sight are treated, in general, as part of the hazards of life and not included in the social category of diseases likely to make the individual consider his plight as worse than the common lot.

As the standard of living rises, this astonishing tolerance to various disorders diminishes. In general, relative health seen as maximum tolerance of a number of disorders gradually deteriorates as society becomes more organised and public health systems are introduced. Overall it can be said that the individual's tolerance to the vicissitudes of life decreases as his standard of living rises; he interprets as disease many disorders accepted as part and parcel of life by underprivileged social categories. Expenditure on spectacles and dentistry, on treatment for rheumatological and skin diseases, etc. is symptomatic of the increasing intolerance expressed by individuals in communities in the course of their economic development (Figure 3).

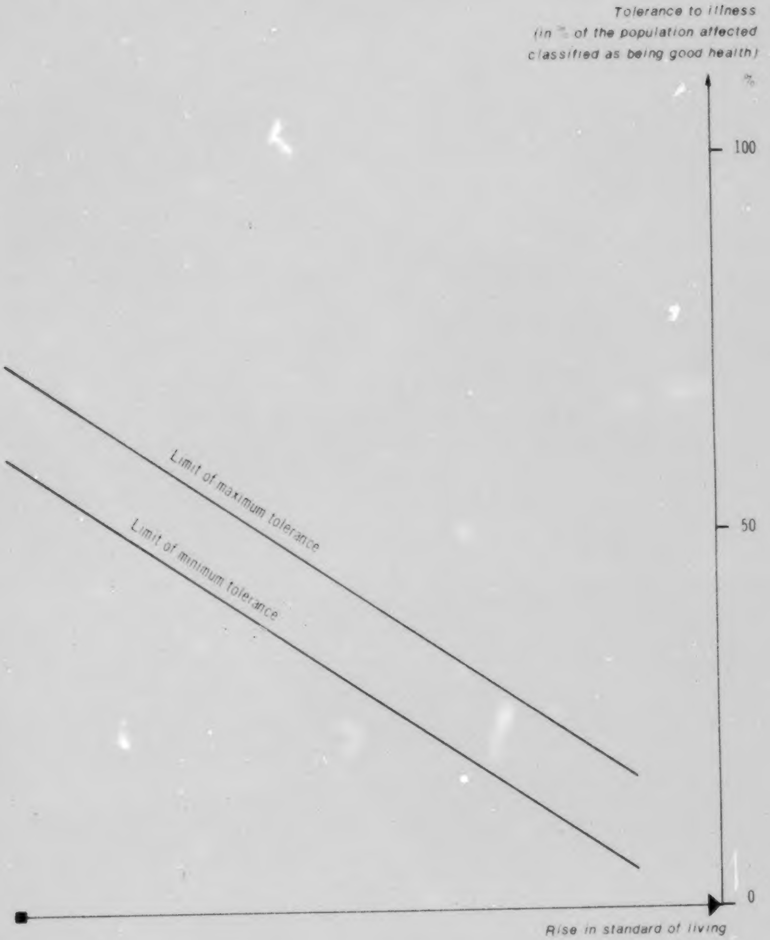
In the same way, the community's tolerance of mental disorders and of old age declines as standards of living and socio-economic organisation progress - to such an extent that beyond a certain income threshold there appears the very clear constraint to eliminate as a generally morbid category individuals whose basic characteristic is to present a constant difference from ordinary standards (the mentally ill, the infirm and the aged).

This approach to the concept of relative health implies the definition of a concept of collective and individual tolerance and intolerance closely bound up with concepts of living standards, income and education. Paradoxically health education is very inadequate in most countries with a high standard of living so that the better the health of an individual the lower his tolerance to illness. This significant paradox should be borne in mind when analysing the distribution of expenditure on health: a sick person has far greater tolerance of sickness than someone in good health. What is more, the lower the social level the higher this tolerance, which raises the question of whether the evolution of industrialized societies does not lead to the deliberate allocation of large sums of money to cope with the intolerance of the privileged categories rather then to remedy and treat the disorders suffered by the underprivileged (Figure 4).

c) Approach to a definition of health

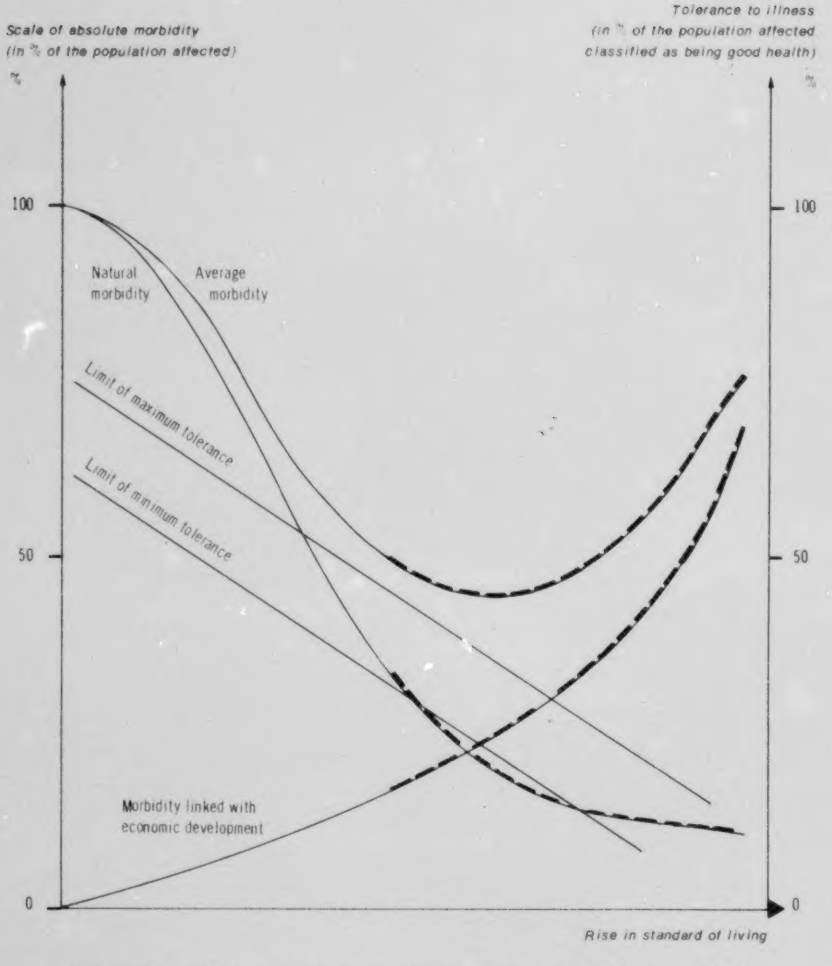
At the point we have now reached it may justifiably be said that the definition of health put forward by the WHO and accepted by most public organisations in the various countries does not match reality and carries within it the seeds of mounting dissatisfaction.

Figure 3



The health concept is not absolute but relative and subjective.
Limits of tolerance diminish with the rise in standard of living.

Figure 4



Taken together, these curves show the increase in health care demand by the combination of various factors including the standard of health.

In the light of the above comments, it is possible to regard health as a completely subjective concept: since it is not based on any objective biomedical or socio-economic criterion, health appears as a physical, psychological, mental and social state of tolerance and compensation outside the limits of which any situation is perceived by the individual and/or his environment as the manifestation of a morbid state. This tolerance, which defines the concept of relative health, may be perceived at general community level through statistics, but in essence it is still the view that an individual may form of his state of health in the light of his education, income and personal experience and the value that he attaches to life.

Any definition of health which attaches no value to the experience of suffering and ill-health implicitly paves the way for the general development of a collective malaise, which itself generates a demand for medical care.

At all times, an individual's state of health may be the subject of an evaluation by means of criteria or indicators which may form part of a collective or individual approach and may be subjective or objective.

But it is important to note that, as far as the individual is concerned, his own subjective assessment of his health is the only one that counts. This assessment, which as yet defies evaluation techniques, fits into a subjective context characteristic of each community.

The essential ambiguity of the health concept makes it impossible to give an absolute definition that may be evaluated on the basis of objective criteria.

II. PRINCIPAL COMMENTS AND CRITICISMS AT THE MEETING OF EXPERTS ON 29th AND 30th SEPTEMBER, 1975

The following experts took part in the meeting:

Franco Basaglia: Professor, Director of the Provincial Psychiatric Hospital, Trieste, Italy
Guy Berger: Director, Department of Educational Sciences, University of Paris VIII, France (Chairman of the Meeting)
Pierre Cornillot: Professor, Dean of the Experimental Faculty of Medicine and Human Biology, Bobigny, University of Paris XIII, France
Rashi Fein: Professor, Center for Community Health and Medical Care, Harvard University, Boston, United States
Emile Levy: Professor, Department of Economics, University of Paris IX, France
Gordon MacLachlan: Secretary, The Nuffield Provincial Hospitals Trust, London, United Kingdom
Henry Nathan: CERI, OECD, Paris
Hans Schaefer: Professor, Institute of Physiology, Heidelberg, Germany
Henning Sjöström: Barrister, Stockholm, Sweden

Pierre Duguet: CERI Secretariat.

Their observations on the thesis put forward in the paper immediately preceding may be summarized under seven main headings, thus:

1. The health concept is particularly difficult to formulate

According to the particular speaker, the problems arising from the health concept were perhaps due less to ambiguity than to paradox (Nathan), contradiction (Basaglia) or vagueness (Sjöström). Schaefer, Fein and MacLachlan even considered that a real definition of the health concept was impossible. Most of the experts felt that the definition of health advocated by the World Health Organisation offered no solution to the problem while some considered it inadequate.

2. The health sector

Although several experts challenged the idea that the health sector was neutral in the past (Basaglia, Levy, Berger), all acknowledged the importance of the conflicts now rife in that sector. According to his particular training or speciality, each expert focussed on the dimension of the conflict which he judged to be most significant, e. g. :

- the conflict between demand and supply (Nathan, Berger),
- the conflict between the healthy and the sick (Berger, Basaglia),
- the conflict between the educational system and the health care distribution system (Schaefer),
- the conflict between the individual's own characteristics and the needs on the one hand, and the system of standard and reference developed by the community on the other (Basaglia, Sjöström),
- the conflict between the health care distribution system and the disease prevention mechanisms (Schaefer),
- the conflict between doctor and patient with special reference to its legal dimension and the role of the jurist in defending the patient's interests in his relations with the doctor and the health distribution system, including the pharmaceutical industry (Sjörström),
- the conflict between the needs and rights of the individual on the one hand and the constraints imposed by the community in the organisation of health care distribution on the other (Fein, MacLachlan, Sjöström),
- specific conflicts e. g. between the right of the unborn child to live and its non-existence as a human being before birth (Sjöström),
- the conflict which threatens to arise in the allocation of facilities as between the hospital and non-hospital sectors (Levy),
- the latent conflict between the administrative mechanism of the health system and its executive mechanism (Levy, MacLachlan).

3. The concept of policy choices in the health sector (Basaglia, Berger, Fein, MacLachlan, and Schaefer)

In view of the above conflicts, most of the experts acknowledged the ambiguity of a socio-economic sector in which choices often have to be made owing to the cost of services and the limitation of resources. It was obvious that the choices the various countries made reflected their health policy. But the fact that the experts still had great difficulty in defining health meant that health policy was based on a nebulous concept and this might explain the wide divergencies between the different health policies.

4. Systems approach (Levy, Schaefer, Sjöström)

It was difficult to analyse the health system in greater depth if the sub-systems composing it were not identified more clearly (Levy):

- the medical sub-system,
- the societal sub-system,
- the individual sub-system.

The specific objectives of each of the sub-systems were not necessarily identical or concordant and the health system might therefore have difficulty in clearly defining its institutional objectives. Nevertheless, it emerged from the ensuing discussion that the experts considered that a balance should be struck between these different lines of force. In particular:

- Basaglia, Fein and Sjöström were convinced of the need to exercise control over medical activity on the lines of the control it was possible to introduce in the case of experts who did not necessarily have the same objectives as the community,
- Sjöström particularly stressed the commercial objectives of the pharmaceutical industry and the scale of the conflicts of interest which might arise inside this sector,
- Schaefer emphasized several times that the patient was an objective ally of his doctors in perpetuating certain aberrations in the health system.

5. The inadequacies of the system of economic analysis (MacLachlan, Fein, Levy)

These three experts concluded, on a variety of grounds, that current information as to requirements and the relation between demand and supply was insufficient to provide planners with effective data on the functioning of the system and the pursuit of institutional objectives. In particular, Fein stressed the contradictions which were gradually developing between objectives based on standards which did not sufficiently allow for the needs of the individual and his specific dimension.

In the same connection, Nathan expressed the importance of educational development as a factor in the demand trend.

6. Measures which might enable the health system to function more effectively

Each expert made his own contribution to this list which is not exhaustive:

- co-ordination between educational systems and distribution systems in the health sector,
- linking the various cycles of education to the health professions,
- development of the specific dimensions of prevention, if necessary to the detriment of the system of health care distribution,
- correction of inadequacies on the three-dimensional system of medical education: the somatic, psychological and social approaches to pathological situations,

- systematizing the rights of patients as against the authority of the doctors, the administrators and the healthy,
- education of patients to emancipate them from the constraints of the system (disalienation of the patient),
- development of control procedures and efficiency criteria in the health sector,
- redefinition of the technical and legal limits of the respective responsibility of the doctor, the insurance system and the patient.

7. The cost of experiments (Fein, Berger, Schaefer)

Most of the experts agreed that the difficulty of investigating needs and defining operational criteria in the health sector made it necessary to conduct experiments in several directions. However, certain experts were concerned at the criticisms which had been put forward in a number of countries as to the cost of experiments and the possibility of ultimate setbacks. Fein emphasized the low cost of experiments as compared with the sums annually spent by countries on their health sector. It was even possible to show that the absence of experiments may have been responsible for abnormal expenditure in certain sectors. It might be argued that although the United States spent heavily on prevention it was not possible at the present time to guarantee any conclusive improvement in the health of persons who had been examined.

In conclusion, all participants agreed that there was still too much ambiguity in the health concept to enable it to be used for a coherent approach to the problem. They largely acknowledged the importance of developing the concept of relative health (as put forward in the report) as opposed to the concept of absolute health. In the same way, several experts reached agreement, after discussions, on the development of the concepts of tolerance and intolerance in the definition of health and well-being.

III. PROBLEMS RAISED BY THE EXPERTS FOR CONSIDERATION AT THE CONFERENCE

1. The concept of health is particularly difficult to define: the various definitions of health do not allow for the problems arising from the functioning of the health system, its objectives in most communities and its future trends.

2. The health sector cannot be treated as one of the socio-economic sectors in a community. The subjective dimension of behaviour in the face of sickness and death, the weight of tradition and education and a wide range of other factors rule out any approach which would limit the health sector to a conventional economic or social area. That is one of the reasons why the health sector is at present so deficient in indicators.

3. Sickness is not the only factor alienating the patient. The health care system is most often a further factor of alienation against which it is essential to protect the patient.

4. According to whether he is sick or healthy, every individual has a different approach to life, sickness and death. The fact that the sick can exercise little "political" influence gives the healthy excessive authority to impose their views as to health, sickness and death. Because of this excessive authority the point of view of the sick and their place in the community have been undervalued.

5. No health system can be functional if it secretes as many conflicts as those now observed. Each conflict is the reflection of the divergent objectives of each partner or group of partners in the health sector (doctors, patients and local and regional communities).

6. No health system can function effectively unless close correlations are established between training systems and health care distribution systems.

7. The health system is misleadingly identified with the health care distribution system. This identification is generally due to the abolition of the indispensable sector of prevention, the excessive medicalisation of problems and sociological or socio-economic contradictions.

8. It would seem essential to introduce the regional concept and specify its scope if the interrelationship between the educational system, the system of health care distribution and the community is to be clearly defined.

2

HEALTH, ILLNESS AND SOCIETY

by

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Foreword

The arguments developed in this paper are the result of reflection upon medical practice taking place in particular in a psychiatric institution, and not the abstract elaborations of a theory. The specialists who wrote it have tried to single out - within the limits of their competence and by constantly seeking the co-operation of those for whom it is intended - the real meaning, in practical terms, of the ambiguous concept of health. This they have tried to achieve by looking above all into the equally ambiguous concept of illness in our social system.

The paper was included in the documentation of the Conference and formed the basis of Professor Basaglia's address on 16th December.

1. Introduction

Talking of health today means referring to a mass of phenomena existing within the health services and which are such as to accentuate further the ambiguity of the boundary between health and illness. The traditional neutrality of these spheres of intervention in respect to the social system has been polluted by inputs from the economic, political and productive sectors of society ("conflicts of interest, power, ethics" in Professor Cornillot's paper) whilst the area which is traditionally the object of the intervention has been stretched to include man in all his complexity as a social being. In consequence new types of technicians have come into this field with the specific function of ensuring continuity between the doctor and his sphere of intervention and the new problems accumulating around it.

The need to find a new definition of health taking all these new elements into account is the result of "questioning the effectiveness of investments in the health field; more specifically it is the result of the hypothesis that these are meant above all to foster the development of illness needed for the growth of the health system". At the same time "society has been entertaining a picture of health enhanced by various intimations that health is also a certain pleasure in living" (both quotations from Prof. Cornillot): hence the need for a system of services which should intervene before the appearance of illness and take positive care of man and his life by removing the factors of illness inherent in the present state of the social system.

Grasping the genuine significance of all the phenomena that come into this field means therefore questioning the traditional neutrality and objectivity of science. But in order to avoid the risk of these new variables transforming the problem into something so vast and ambiguous as to make the voicing of an unequivocal concept - and the practical operation necessary for its implementation - impossible, it is necessary to understand the relations between the phenomena that have modified the range and boundaries of this sector. More specifically, it is necessary to understand the mechanisms, the processes and qualitative relations at work between the different problems in this field: i. e. between the vastness of illness as a phenomenon and the nature of the conflicts which take place in its administration. It is not enough, therefore, merely to describe the phenomena in order to understand the problem in hand. What, for instance, is the connection between what are described as "conflicts of interest" and "conflicts of power"? In what measure and at which stage do they interfere in the course of the illness? In which manner can a "subjective perception" of a state of health be regarded as a social fact and through which channels can it express itself?

The aim outlined at the very beginning of this paper makes answering these questions necessary; this, however, should not be limited to a mere listing of the phenomena which make up such a complex picture. An operative definition of health must be found: one, that is, which could intervene as a factor of change in this state of affairs. One must therefore analyse the different nature, the reasons for and the mechanisms of the present conflicts; understand, for instance, in what measure there are "contradictions internal to the system", as an expression of non-opposed interests which are therefore capable of being reformulated without bringing a change in the nature of the subjects which make up these contradictions and the relations between them; or else in what measure "opposed contradictions" exist which are such that they make it necessary for only one of the interests in hand to be singled out in order to answer a demand which is recognized as favouring progress. Choosing one or the other explanation will have extremely important consequences on the kind of intervention adopted, the resources necessary to make it work and the efforts and contracts needed for its establishment.

To achieve all this, one must find conceptual means to describe and explain not only the existence and characteristics of the phenomena, but also their place within the general structure which supports them and in which they are expressed in a series of interlinked relations. In other words, it is no longer possible to take as a new frame of reference for the health issue a general social one without ascertaining what it is made of, which are the processes which bring it about and which is its relation to the other elements making up the nature of man. There would be a risk otherwise of repeating the process which, at the beginning of this century, led to the addition of a psychological element to the existing biological aspect of medicine, and which resulted, not in a global and undivided vision of man, but rather in a further division and specialization of the aspects even though they are seen as facets of the specific question in hand (the intervention of the health services on a sick person). Similarly, an abstract interpretation of social problems in the aggregate risks being only an opportunity for new technicians and services to come into the field and see to this aspect which, while it appears to include all the others, is nevertheless viewed as a further specific intervention to be added to the others. There is a danger of adding to the ambiguous practice of seeing everything in organic and psychological terms, another equally ambiguous practice: that of seeing everything in social terms. This process of viewing and situating everything in absolute terms can only lead to futher division and to a maintaining of the original status quo.

For this ambiguity to be removed, it is necessary to reconstruct the original functioning of a society from its vision of health; that is to find, through the understanding and pin-pointing of the roles that come into play around the phenomenon of illness, and the areas in which illness is administered, the concept of health which supports it. And after that, one will have to analyse what to change in the complex mechanism revealed, in the name of a concept of health which will be unequivocal and founded on reality, in that it will allow the contradictions at the root of this mechanism to be overcome.

2. Health and Illness

When one speaks about health and illness, one is culturally conditioned to accept an obvious, clear separation between these two opportunities, as naturally as one would say "it's raining" or "the sun is shining". These definitions apparently refer to a tangible and unequivocal reality; as tangible and unequivocal as the falling rain or the warming sum, and as tangible and unequivocal as the difference between them. If one then wonders what health and illness are as a concrete reality in reference to our life, one reaches once again an obvious definition which makes the question itself a paradoxical one: namely that illness is the absence of health and health the absence of illness which still says nothing about what health or illness are and even less about how we can understand the nature of the limits between them. But if one attempts to go further by speaking about health and illness in relation to their significance and functions within the complex mass of values which our culture is made of, and the framework of the social structure which it supports, illness then becomes that for which one resorts to the doctor and hospital - therefore that which brings about the suspension of "normal" life: that is activity and work. Health then becomes what keeps man in his proper social role and his proper job according to the required level of efficiency.

Health and illness are not, in this case, natural, obvious states which may be defined by specific, subjective and objective characteristics: that is they are not concrete realities (positive or negative) which are autonomous in respect of their function and significance. They are relative to a "norm" which is explicitly defined in terms of participation in productive life, as if there were a direct, objective and subjective relation between being in good health and working. But this definition of health as relative to something which is not a priori to be identified with the needs of man* leads to a concept of health expressed in absolute terms as if the norm was not life - that is a state of health constantly undermined by illness, or a state of illness constantly present in health. In this sense, illness becomes a suspension of the norm, which, if it is not rapidly transformed into health (i. e. efficiency and participation to production), is then treated as the absolute equivalent of death (i. e. exclusion of life).

Viewing these opposed elements (one positive, the other negative) in absolute terms makes any relation between the two impossible; it prevents the establishment of a dialectical relation which might result in health being viewed as a moment of consciousness when the body overcomes the experience of illness, and illness being viewed as a part of life, an opportunity to become aware of oneself, of one's own body, of one's experiences and so of health (if death does not intervene). Health and illness, by the very fact that life also implies death, should be human phenomena engaged in a relation which is at the same time opposed and united i. e. the balance and lack of balance of contrary forces; they should be the two dialectical poles of reality, moving between life and death. The function of medicine, in this case, should be that of a mediator which, while it deals with illness, nevertheless admits, as a basic human experience, the contradiction implicit in life (the fact that it contains death), without viewing either of the two poles in absolute terms, to the detriment of the other. But as soon as health is regarded as an absolute value (as equated with efficiency, the one recognized value in a society in which life is geared to a specific type of production), illness then becomes an accident which interferes with the normal course of life, as if the norm did not include both health and illness. Thus, the sick person is compelled to experience his illness as something external to life, and in order to deal with it he has to put himself in the hands of "science" by becoming "entirely ill"; this fact prevents him from living through his illness as a personal experience which does not shatter the continuum of life, to which he could deal with the help of science.

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* In terms of our society, it may be said rather that production is a value in its own right which has nothing to do with productive or unproductive man; in incidental and alternate periods production needs workers - that is men - but if it can do without them - as often happens in times of economic recession or because of increased automation - it gets rid of them.

Medical ideology - which considers health as the only positive value - deals with illness as a phenomenon by itself, neutralizing it and refuting its existence until it is reduced to a mere object of competence. Paradoxically, it destroys the sick person while at the same time it tries to cure him, by cheating him of his relation with his own illness (of his relation with his own body, with his own background and with a subjective way of experiencing one and the other) which has to be experienced in a spirit of passivity and dependence. Medical ideology is therefore at fault for reifying man's experiences, by encouraging the patient to undergo his illness as a mere accident regarded by science as an object, and not as a personal experience.

The distance which the doctor puts between himself and his patient now reduced to a mere body, or even to a mere ailing organ (the distance separating subject and object) will be the model for the distance which the sick person will have to learn to put between himself and his illness and between himself and his body which he entrusts to his doctor as the only legitimate expression of his own bodily experience. This resourcing of his own experiences to which the sick person has to submit in this process means that he stops identifying himself with his own body and that this process is henceforth shattered, which in turn means that there is an irreversible process of alienation which will prevent him from identifying himself again with his body. The connecting medium will be provided by medical ideology, acting however as a foreign body which prevents any real communication between the two separate entities.

What is generally regarded as recovery is therefore also the acceptance on the part of the patient to be cheated and dispossessed of the possibility of living dialectically through the experience of his illness and therefore of his body. Medical ideology and medical practice contribute to widening the gap, to condoning self-alienation as a value per se by establishing it as an essential condition beyond which there is health.

When "natural" contradictions (in this case health-illness) cease to be approached through the overcoming of their internal conflict and through also the help of medicine which facilitates the active and subjective resolution of the conflict, one can only consider separately the poles they consist of: if what concerns illness does not at once become recovery (i. e. health) it immediately becomes death, as it is not accepted as being part of life.

In this vision of things, the spheres - and hence the institutions - in which illness takes its course are automatically separated from those in which life takes its course; this means that there must be an even earlier identification and the definition in absolute terms of any phenomenon which may make one suspect the presence of illness in health. But the hospitals which are made for illness are not made for the patient who, until he dies, is a carrier of both illness and health: i. e. he is still a part of life. This (apart from the fact that they are places of work made to measure for technicians) [illegible] what makes hospitals what they are: organisations in which the patient is only a patient and where what remains vital in him is neutralized by the efficiency and inefficiency of the hospital which acts merely as a system which organizes illness as a sterile and independent fact, separate from the patient's reality.

The field, both threatening and reassuring, in which we continue to move, is therefore that of the strict separation of opposites: good and evil, health and illness, beautiful and ugly, true and false, normal and abnormal. Each with its own separate ideological and institutional sphere, they acquire an independent and absolute value (positive or negative) in such a way that there is never the possibility of a dialectical relation between them.

3. Social Illness

Illness becomes a problem of competence for the social system as soon as all the production of wealth is channelled through a system of division of labour of which all the aspects are pointed in a single direction: the capitalist system of production. In this context, the political and economic systems differ in that the latter delegates the organisation of the management of the state and of functions formerly delegated to various social groups, thereby unifying the administrative, financial and normative machinery, etc. The problem is to make these aspects of the social system functional in respect of the production system in such a way as to create a social system conditioned to approve the expansion of production of wealth and goods.

The problem of illness, therefore, becomes a social problem when there starts to be a need to maintain and control the efficiency of the labour force necessary to ensure production. In the ensuing state of affairs, in which man is utilized and exploited, illness too becomes a merchandise. "Alienated" work reduces man - whether sick or in good health - to a state of self-alienation, which will be subsequently reinforced by all the technical interventions ostensibly made for the benefit of his own life and health but which, in reality, are nothing but further evidence of his exploitation and utilization.

And so new problems presented themselves from the beginning of the struggle of the European working class as answers to these pressures and needs as well as answers to the demands of capital: the need to recover the labour force in order to put it back into the swing of growing production; and the need to enable ever-increasing strata of the population to become consumers - that is buyers of the goods produced by an equally expanding market; this process fulfils at the same time an integrating function by enabling these people to take a share, with the acquisition of goods, in the wealth produced.

When production, therefore, passed from a state of mere expansion to a state of organisation (roughly until the second half o the nineteenth century), the state started to organise a system of health services, social insurance and standards in matters of health. With this, too, came the scientific organisation of medicine. The sphere of illness and the function of the treatment are then handled be separate specialized machinery dealing with the management of the irregular functioning of the labour force: illness and any departure from the norm are organised within a scale of values in which there are overlapping spheres (e. g. mental illness which is treated in hospitals which are also prisons, as tangible evidence of this ambiguity), spheres of maximum investment (age of maximum production in man) and spheres of minimum investment (problems relating to women, older people, children and the handicapped).

The process of keeping the functions separate and of encouraging the specialization of institutions is such that, for example, the spheres of politics and health are apparently independent from the sphere of economics and production on the strength of the initial delegation which offers, in exchange, a free hand in their management, as has already been described in relation to the needs of the social system. Thus, the neutrality of science, the independent position of culture, the objectivity of the judicial system, the remote attitude of politics serve, on the one hand, to resolve conflicts in the economic sphere, and on the other, to leave the administrators of these sectors free and empowered to run them as they see fit and establish themselves as sovereign in their position, creating thereby what Gramsci described as "the officials of consensus".

Illness is thus viewed separately from health because their respective spheres of management are distinct from each other, just as the personal is distinct from the political, the scientific from the empirical, the theoretical from the practical; because their ideologies and institutions are clearly distinct, apparently mutually impenetrable, yet with a real parallelism between them caused by the fact that they were issued from the same logic and are used to legitimize and consolidate the same social system.

But the use of this manichean system of division, which seems to come into effect on a neutral and metaphysical plane, reflects another concrete and real division, one on which is founded our social system: the division into classes. This is an artificial division, determined by history, and imposed and accepted as a natural division. In our social system, any human expression is apparently assessed according to the latter, but in practice inscribed within the former from which it derives its function and significance.

This conjecture gives rise to a set of values, norms, rules, ideologies, and institutions which, though specifically tailored to resolve man's natural contradictions (hunger, illness, departure from the norm), nevertheless only maintain and confirm the artificial division on which is based the economic and social structure. Good is what has been established by the ruling class (or, more precisely, by the economic laws which this class represents); evil is what denies the legitimacy of equating good with the good of the ruling class and its economic laws. True is what confirms the use of and need for this division and power; false is the demand of the ruled to become his own master and determine his own life according to laws which answer his own needs, and not the needs of those who formulate them.

In this context what can health be if not the apparent condition of one who remains in his place - whether he is sick or in good health - in a condition of total alienation which prevents him from being his own life, exactly as if he were in a state of illness?

When one comes next to what is considered normal and abnormal the division and definition are even more ambiguous, or better still, more explicit. Normal or abnormal in respect to what? Normal patterns of behaviour are those which correspond to the values of the ruling class and the parameters established by it as corresponding to its own needs. Abnormal behaviour, therefore, would be by definition, the behaviour of one who does not find, in the values imposed upon him, an answer to his own needs. Given that the rules of behaviour are established according to the needs and values of the ruling class, it follows that the subordinate class does not find in these same values an answer to its own needs, since the values of the ruling class do not take into account the needs of the subordinate class unless the ruling class is prepared, and finds it convenient to answer and see to them, or unless the subordinate class is strong enough to demand that they should be answered.

If one goes back, as an example, to the first formulations of the rules of behaviour of bourgeois society which could originally be considered as an instrument of social transformation, it is quite obvious that one is dealing with the rationalization of the values and needs of the ruling class: the rules of savoir-vivre represent the set of rules of bourgeois society, proposed as a general norm which the whole of society must adapt as its own. But as soon as it is realized that the standards of behaviour are built around the image of a determined reality (the needs and values of the ruling class), it becomes evident that they are the expression of particular needs and demands imposed as universal ones - i. e. needs and demands which do not correspond to those of the majority. In this sense, a rule which does not correspond to a need can only act as an instrument of control and oppression on the group of people on whom it is imposed; it becomes an abstract arrangement which finds no justification except in imposing its will and applying sanctions to those who do not bow down to it. Unless it answers a real need, the norm is always having to adapt itself to something artificial, which means to a pattern of behaviour common to all and which precludes, as such, any unpredictable and uncategorizable experience. What matters is preventing the possibility of an alternative which might go beyond the established norm and the values implicit in it. But these are still the values of the ruling class which thus engulfs in its logic the subordinate class; this in turn - if it is unable to satisfy its own needs - finds itself weakened by its adaptation to a norm of behaviour which is foreign to itself and which reduces the urgency of its needs and the strength of its demand to satisfy them.

There is not in capitalist logic a direct answer to the needs of man (unless it is to the needs of the ruling class which formulates the rules to satisfy itself). This power extends also to the creation of artificial needs which can be satisfied and to the institutional organisation (according to different categories) of primary needs which are not answered. Thus, there is less likelihood of being faced with demands which cannot be dealt with within this economic system.

Standards of behaviour as a set of abstract rules which have no bearing on the real life of the majority can only act as instruments of restraint and control, whether through the levelling and flattening of experiences, or through the threat of sanctions for the transgressors. The aim of this is the creation of an apparently universal middle class within which the division into classes continues to exist but where the dominated class - adapting itself to the standards of behaviour and the values imposed upon it - imitates the ruling class which imposes these standards and values. In this way, it is further weakened by the adoption of values which do not correspond to its needs, while the ruling class becomes stronger from the strengthening of its own values. The distance between the need and the satisfying of the need remains unchanged if the standard of behaviour does not answer the concrete needs of all men: it then becomes a justification for its imposition and thus an instrument of control and power over whoever transgresses it, just as over whoever adopts it as his own.

Moreover, the institutions (and by this we mean all the institutions in our social system, including culture and science) whose function - even though at various levels - is always the protection and safeguard of the established "norm", are administered and run by the ruling class according to its own code of reference. This code is accessible only to those who share and understand it because it is part of their life. It is not only a mode of expression but a set of values which are perfectly coherent between those who establish them, those who present them and those who use them. This code cannot contain the needs, and the

117

answers to the needs, of the class which is a priori excluded from this set of values. Thus, it becomes an instrument of manipulation, of distance, domination and discrimination so that the oppressed class - even in the most politically-minded sectors - is incapable of recognising in "science" one of the instruments through which are activated the manipulation and control it is subject to. This class attributes to "science" an "objective", even "scientific" value, a fact which encourages its own passive acceptance of this value in the sense that the value is situated in a sphere which is beyond its knowledge and understanding because it is manipulated in such a way that it can have no knowledge and understanding.

Normal behaviour, therefore, is essentially behaviour that corresponds to the values of the individual who expresses it as corresponding to the values of the ruling group to which he belongs; or else -even if it does not correspond to his own values (and so to his own needs and the values and needs of the class to which he belongs) - behaviour expressed as his own because he is manipulated in such a way as to be unaware of the discrepancy between the world of his needs and that of the values imposed upon him. An individual is therefore considered "normal" as long he accepts the norms set as the rules of "civilized society" and which in reality correspond to rules which establish a distance between those who have the power to set the law and those who must submit to it. The class which has the power identifies itself with those rules because they correspond to its demands, its values, and also because they offer some guarantee against the class which is made to pay for it and could therefore invalidate them.

Abnormal therefore describes whoever - in some unforeseen way - questions the validity of these rules, transgressing them because they do not correspond to his needs. Abnormal behaviour is therefore initially the codified and codifiable transgression of rules which are imposed as universal - that is as answers to the needs and interests of everybody - whilst they only answer the demands and interests of the class which establishes them. Transgression is therefore a phenomenon relative to values imposed as absolute; and the "answers" to transgression can thus only be absolute ones: punishment, penalty, accusation, rejection from society. These are confirmed and separated as independent and absolute by the various branches of science which take charge of them as mere objects of their competence, thereby separating the phenomenon of "transgression" from the social context in which it takes place and of which the transgression itself is an integral and significant part.

This phenomenon is particularly evident in the field of human sciences - which include medicine because of its apparent connection to things social - which, when they were set up, seemed to be able to offer new perspectives for the liberation of man. But once these new sciences were introduced into the system of class division, and so into the system whereby one class is dominated by another, they were inevitably transformed into instruments confirming this division and domination through the separation of the phenomena from the original context of which they are a possible expression.

This process has engendered a series of cultural bodies which set and define the rules of behaviour, ignore primary needs, create artificial ones and teach men the significance of their births, what they are, what their life and roles must be, what relation they must establish between themselves, what their death must be and what form it must take. Whereas the functions of religions were to manipulate and control through the distinction they made between good and evil, reward and punishment, guilt and chastisement, those of human sciences, it seems, are to distinguish the normal from the pathological correct behaviour from departure from the norm and all this no longer in relation to an absolute value which - even if it manifested itself on different levels - made all men equal before the burden of their sins, but rather in relation to the interests of those who control the situation. Even though these sciences were established in the name of man and his liberation, their function has been to set the norms of behaviour, to define the limits of the norm, to control - through therapy and confinement - any departure from the norm, not on the basis of man's needs (i. e. of the needs of all men), but in answer to the demands of economic law as represented by the ruling group which depends on the control of the majority for its own game and power to be guaranteed.

There are various channels through which this process may be activated, but they all have one thing in common: a tendency to view phenomena independently, as if they did not come about and manifest themselves in a series of interwoven relations and reciprocal rapports; a tendency therefore to deal with them as independent factors, removed from the fabric of which they are an element, thereby giving them an independent, natural and irreducible character. Once each phenomenon is viewed in independent and absolute terms, it is allocated to its own special sphere of competence where, rather than being dealt with and resolved, it will only be made sharper and more firmly established.

This process as isolating phenomena and viewing them in absolute terms implies the existence of another process, which is closely linked to it: the removal of any problem from the social context in which it appears (each phenomenon being interwoven into a fabric of relations of cause and effect) to the individual who embodies it and who is automatically stripped of his background and identified with the phenomenon itself. Even when in order for this deadlock to be resolved, the social implications present in any phenomenon are taken into account, this broadening of the sphere of investigation does nothing to shatter the subjective isolation of the individual but acts as if there was for each individual a cause quite separate from his social problem.

4. The Delegation of Power

The problem of health services has been considered and dealt with as a purely technical problem. Politicians and administrators have delegated to doctors and specialists the administration of both health (as a preventive measure) and illness, once this has occurred. Thus, the technician has become the neutral practitioner of a neutral science which, on the one hand, considered man as a collection of organs of which one or more were damaged by some disease, or changed in some way, and on the other acted in such a way as to separate man from his own background, his own environment, his own life, in order to deal with his illness in an isolated and aseptic context, free from any external interference.

"Treatment", therefore, has meant, for the most part, dealing with a sick organ by intervening when the diagnosis was clear; neutralizing the symptom when its cause and origin were uncertain; or excluding the patient when medicine was unable to deal with his illness. But when illness is viewed as something separate from the patient's life, the treatment can only be partially successful because the symptom is often separated from the element of which it may be the expression.

This is an area in which medicine shows quite obviously its lack of neutrality: the fate of the various patients who should be cured by medicine is basically determined by their class, in the sense that, though all men are equally vulnerable to illness, their treatment in the hands of medicine varies according to the class they belong to. This does not only mean there is a different kind of medicine for the rich and for the poor - that is a more sophisticated medical system for those who can afford proper attention for their illness, and a more clumsily administered and fatalistic system for those who cannot - but also that the fact of separating the patient from his own background (work environment, relations, economic conditions, family environment, type of dwelling, etc.) has different results according to the patient's class.

The symptom of an illness, viewed by itself, means little unless it is considered as the expression of a discomfort or suffering which implicates man as a whole, and unless its causes are not scrutinized before they are eliminated. To take action on the strength of the symptom often means silencing a voice which, while it may be saying something, may also be saying something else. In the case of the prosperous class whose primary needs are automatically satisfied, the symptom may be a direct expression of what it is: i.e. a symptom of illness, in which there may also be the malaise and distress of an existence which nevertheless lies beyond the world of needs; where, therefore, there is the advantage of a personal, family and environmental background which encourages - if the prognosis is favourable - cure and recovery. The illness, in this case, remains within the cycle of production so that it continues to have an exchange "value" which is taken into account.

But in the case of the class whose primary needs are not satisfied, ignoring the patient's background and treating only his symptom means ignoring - as if they did not exist - his needs by assuming that they can be satisfied and leaving to the individual alone the responsibility of seeing that they are. The symptom may be an expression of these unsatisfied needs; or else it may also be those very needs, unsatisfied and so promptly ignored by medicine as problems which do not concern it, which bring about the illness.

The viewing of the symptom separately from the patient's background has no serious consequences for whoever is able to deal with his background properly (i. e. who has the economic and cultural means necessary for it, the personal possibility of adapting himself to it again once he has recovered from his illness, by taking personally the necessary measures to ensure his recovery). But in the case of the class whose individual needs are satisfied only if there exists a social system which takes them into account and answers them, when the symptom is viewed separately from the context of needs and unhealthy working conditions which may be the source of it, all it expresses, for the technician, is an illness which must be dealt with and which - after the first intervention - is considered the responsibility of the patient who must deal with it himself in a condition such that it is quite obvious that he will not be able to do it.

What does treatment mean in this case? And where is science's supposed neutrality which should have answers valid for all men and all illnesses? What is the point of curing the "symptom" of acid or gas poisoning, tumours caused by dyes, hepatitis caused by pollution and an inadequate sewer system, if, once cured, the patient goes back to his mine, his factory or his unhealthy living conditions, whilst others have already entered the spiral of illnesses caused by those very elements which remain unchanged? Or indeed what is the point of curing the symptom if the illness only serves to remove the sick person from the mine, the factory, or any place of work leaving him as an alternative his unhealthy living conditions, this only so long as he is able to keep it? In this case, how can one speak of science as constantly changing and progressing and perfecting its instruments while the premises on which it is founded remain unchanged?

This argument is intentionally simplified because, in fact, it is quite simple, even if science, in its supposed neutrality, is unwilling to understand what its institution itself is hiding. Science's lack of neutrality consists in its placing itself above class and labour division by apparently bringing its assistance to all men in equal measure (even if there is a difference in the form of treatment given), through the supposed levelling of the symptom: the symptom is the same for all men, therefore illness is the same for all men, therefore life is the same for all men before death. And if some can find better means of recovery than others it is not the concern of medicine which, by definition, deals with illness and not with social problems. The power which the politician has delegated to the technician goes back once more to the politician (i. e. to social welfare), but this time with a diagnosis of incurability: science has its limits, but meanwhile illness remains within the sphere of medicine even if the latter in fact cannot cure it by means only of the technical instruments available to it.

But medicine is either totally socially-oriented in the sense that it answers all the demands for help and treatment of all citizens while trying to obtain that they themselves should deal with the removal of the causes of illness or dealing with basic economic and political problems which range from alienation to the viewing of man and his illness as objects; or else it is non-existent in this respect, concentrating only, as it does, on designing new equipment and manufacturing more sophisticated medicines for more sophisticated illnesses, while men are dying from want, neglect, indifference, from the blindness of medicine itself which does not admit its connivance with the economic and political system which entrusts it with the task of dispensing treatment to all citizens while at the same time it prevents if from doing so.

Which does not mean to say that in a different society in a different social system where science could be at the service of all citizens, all illnesses would disappear, and human suffering as well: what would disappear will be the "surplus value" of most illnesses and most suffering, when commercialization will cease to be the only alternative and the only significant thing in human existence.

This means that the technicians and the institutions which are delegated to them will have to strive to achieve - with the participation of those for whom it is intended - the establishment of a social system which will not allow and condone the exploitation of one class by another; in which illness will be what it is, and not be turned into an opportunity of excluding the patient from society, which in turn will make arrangements and takes measures to cope with the illness of one of its members; in which the technician's duty is to cure because what the politicians and administrators have delegated to him is an expression of his political responsibility; in which the patient can come into his own and avail himself of the possibility of being cured as something to which he is entitled, and not as a concession.

If one cannot understand what illness is until primary human needs are satisfied, one cannot know what the necessary treatment is, and so every intervention will be a palliative, a medicine one does not know anything about for an illness one does not know anything about.

In this sense, the technician who finds himself being used as an instrument of oppression through his "scientific" interventions, must reverse the process by transferring it directly to the oppressed class. Together they will be able to single out the processes and the means through which the ruling class - by means also of science and medical treatment - succeeds in making the subordinate class accept measures apparently designed to answer its own needs and which in fact destroy it, because each technical intervention which acts as a cure while reflecting the process of delegation traditionally implicit in medicine, produces a new form of "consensus".

5. Conclusions

Unless one clarifies first of all the domain in which the problems of health and illness, normal and abnormal behaviour are located, it is useless to attempt to give a definition of these phenomena. The ambiguity continues to exist, with its ideological character as a misunderstanding, rather than with the dialectical character implicit in the contradiction.

Only if the strategy, the purpose of each action and each provision - and so of each technical intervention - are centered on the human being - his needs, his life within a community which changes in order to achieve the fulfilment of these needs and of that life for all, beyond commercialization as the absolute practical value - will one be able to speak of illness and health as expressing directly what they are. What must be understood is that the value of the human being - whether ill or in good health, abnormal or normal - goes beyond the value of health and illness, normality and abnormality; that illness and abnormality, just like any other human contradictions, can be used as instruments of self-acceptance or self-alienation, and so as instruments of liberation of domination; that what determines the significance and evolution of each action is the value attributed to man and the use one makes of it, from which can be deduced the use one will make of his health and his illness, his normality and his abnormality; that according to the different value and use of man, health and illness, normality and abnormality acquire either an absolute value (one being positive, the other negative), as the expression of the inclusion from the norm of the sick man; or a relative value, relative to the events, experiences, and contradictions of life which is always composed of health and illness, normality and abnormality. If the value is the human being himself, then health and normality cannot be the norm since the human condition is one simultaneously of health and illness, normality and abnormality.

If the primary value is the human being and his needs within a community in which production is directed to the survival of everyone the sick person, the disabled, the handicapped, the deviant, the mentally disturbed, the inefficient are not the negative elements in a one-way process, but are a part of a whole, the fulfilment of the needs of which is the reason for production to exist and develop.

This does not mean that one should postpone each pronouncement or each intervention on matters of health and illness to the time when they will be able to be merely what they are. But it means that the duty of the technicians operating in this sector must be to reveal in practical terms what lies underneath "science's neutrality", underneath the neutrality, underneath the neutral technical intervention, and what the "consensus" they produce consists of; to refuse to approach the phenomena in their field of competence by maintaining themselves in the state of isolation in which science has always put them. Their intervention on a limited phenomenon which is artificially isolated and viewed in absolute terms, is not a guarantee of the scientific value of their work but rather a guarantee that everything which has a direct relation with the social and economic world is automatically transferred to the individual, even when one is supposed to take into consideration the social implications of phenomena without investigating and understanding what their nature is.

What one must understand is that, in the logic of Capital which holds prisoners both the victim and the executioner, the state of being different and the state of being ill, whichever their nature, must be dealt with and controlled in such a way as to avoid expressing anything which goes beyond the mere brutal fact of the symptom, and that, therefore they should not require answers which go beyond a purely technical level into a political and economic one.

II

HEALTH AND SOCIETY

Discussion by a Panel of Experts on 16th December, 1975

Panelists:

Bror Rexed, Director-General of the National Board of Health and Welfare, Sweden,

Archibald L. Cochrane, Director of the Medical Research Council, Epidemiology Unit (South Wales), United Kingdom,

† Jean Tremolières, Director of the Laboratory of Human Nutrition, Institut National de la Santé et de la Recherche Médicale, France,

Moshe Prywes, President of the Ben Gurion University of the Negev, Israel.

Moderator:

John Evans, Président of the University of Toronto, Canada.

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Evans:

This morning we have heard two very interesting papers which include definitions of the concept of health: Professor Cornillot's in terms of tolerance and compensation and Professor Basaglia's in terms of the perception of normal and abnormal, both involving the socio-economic and political aspects as well as the medical. I'll begin by asking each of you briefly to comment on whether you agree with these general concepts of health, particularly in reference to your own areas.

Tremolières:

Professor Cornillot's definition fits human nutrition very well. Consider cardio-vascular disease, alcoholism, obesity, etc. We need a global psychological approach to understand them. It would perhaps amplify Cornillot's position to consider the dimension of subjective feeling about disease. How do we feel about the food we need? Obese can be defined as a person's feeling obese. Food behaviour and health are subjective and influenced by socio-economic background.

Cochrane:

I don't think that discussions of definitions are very useful. We should concentrate more on ways to effect and evaluate change. Apart from that I do agree in general. I'd like to add that we waste a lot of money in medicine trying to alter people's health. Through education we could cut out a lot of the secondary morbidity Professor Cornillot referred to.

Rexed:

What Dr. Cornillot says about tolerance is true and holds, I think, for both individuals and societies. When I was a child I saw lots of people in Sweden with goitres and varicose veins. Neither the society nor the people themselves worried. Now people don't tolerate such things and try to cure them. We must, however, guard against "de luxe consumption" at the other extreme which is when society won't tolerate small deviations and locks up the old, the handicapped, etc. There's a limit beyond which tolerance musn't go.

Prywes:

I agree completely with Dr. Cornillot's definition which brings us immediately to the relationship between health and the socio-economic framework in which it works. I also agree with Dr. Cochrane that medicine has only a relatively small role to play. May I give you an example? In Israel almost all the health institutions are run by the Workers' Union Sick Fund (a paradise for Dr. Basaglia!) which decided recently to charge a token 5 cents on any prescription to cut down on the unhealthy amount of medicine (everything from aspirin to cortisone and antibiotics) per capita. The Council of the Union vetoed this measure because it is against the socialistic doctrine, requiring that all health care be free. So here you see health being pitted against politics or socio-economic considerations.

Evans:

Dr. Prywes, you have disappointed us. Some of us were hoping to find solutions to these problems in the proletarian model. It is very difficult to bring the people into direct control of health services because intermediaries develop who have their own ideas.

As we seem to have general agreement on the definition of the concepts in the papers, let's move on to how to introduce those concepts into our systems of delivering health care.

Rexed:

I am for health education to help fight against the "medicalisation" of people who think the health service or the doctor can change illness into perfect health. The health services, therefore, have an important job to support health education, which will help people to understand the subjective balance between health and illness and also to guide their own lives without going to the doctor all the time.

Evans:

Would you give us some specific examples of what to add to the health service system?

Rexed:

Yes. Health centres should work with community groups as well as offer primary medical care. In Sweden we have tried long-term propaganda to change food behaviour - less fat, more exercise, more vegetables, enough iron. Change has been slow but there are some effects to be seen. Many of the diseases of development that Dr. Cornillot spoke of are caused by wrong attitudes to our way of life. We have to try to change those.

Cochrane:

I agree - we certainly need more anti-smoking and anti-drinking propaganda - but I'm doubtful about diet and exercise because there is no conclusive evidence. It's very difficult to test anything to do with personal habits. The trials get hopelessly messed up when the people who should be exercising start drinking heavily and sitting on their backsides and the ones who should be sitting on their backsides take up exercising. There also isn't a lot of evidence that overweight people die young.

But these considerations are much more important than health services. We have a good one in the United Kingdom which costs about 5% of our GNP and is free to everyone. We're wiser than Sweden which pays 8%. My advice is to pay as little money as possible on health services.

Tremolières:

To continue about disease related to food. I'd like to say that there are socio-economic and genetic causes. Sometimes, but rarely, there are deficiency diseases which can be cured by one vitamin or one amino acid. For the other cases, like hyperlipoidemia and hypercholesterolemia, how do we educate about food? First we must listen to the patient, listen for the meaning of the disease to him. Is he intolerant to the disease? Is society intolerant? The problem is often more than physical. It has to do with food habits, attitudes and so on.

Prywes:

To follow Dr. Tremolières, I stress the importance cultural background has for our behaviour. It's easy to see this in Israel, which is a melting pot. Western ideals have come to dominate over eastern ones, among which was the well-fed woman as a symbol of beauty. Now it is shameful to be fat. This of course affects eating habits. Here's another example. The Parliament has authorized a £ 100 premium to every woman who gives birth in a hospital in order to attract the Bedouin nomads. Now almost 85% of their babies are born in hospitals, which is obviously a significant cultural change. Another thing that influences health is education. One of our studies shows that the more school education a mother has the less infant mortality or hospitalization there is among her children under one year old.

Cochrane:

Did infantile mortality come down among the Bedouins when the women came into hospital to deliver their babies?

Prywes:

Stillbirth and death in the first 8 days came down surely, but it's hard to say because we don't know what happens in the tent. In our district infant mortality among the Bedouins has come down from 140 to 38 in 10 years.

Cochrane:

So there are many other factors.

Prywes:

Sure. Mainly working conditions, education and settling down, I would say.

Rexed:

To come back to food, I want to answer Dr. Cochrane (who is an example of the hypercritical scientist asking for impossible evidence). I'm certain health education concerning exercise and diet is worthwhile. Exercise diminishes, say, small ailments of the legs. In Sweden we are trying to make healthy attitudes the fashion.

It is true that 8% of the GNP is a big sum for a health service system. We are decreasing the number of beds for acute somatic diseases and psychiatry and increasing them for long-term diseases for the old people. We also want to increase primary medical care and to improve district services especially in prevention. I guess health costs will surpass 10% of the GNP some years. In a recent opinion poll health was one of the top priorities. Of course no expansion of the health care system can eradicate illness.

Education and social changes (living arrangements, traffic, income distribution) could answer some problems. Even in a welfare state like Sweden lower groups suffer certain illnesses more often. There must be a delimitation between what the health service can do for society and what the society can do for health.

Cochrane:

I agree that one gets a lovely feeling of well-being with exercise, but would you advise me at my age to go skiing this winter?

Rexed:

Yes.

Cochrane:

The risk of accident goes up like mad after 60. (I'm going whatever you say.)

Rexed:

Go cross-country.

Cochrane:

That's boring. I prefer downhill!

The next point of disagreement is on institutions for old people. Why don't you consider the three-generation family as the ideal way of looking after old people?

Here's one more point about moderate diet. We in the United Kingdom have never been as healthy as we were during rationing from '39 to '45 but we hate to hear it. We prefer the food!

Rexed:

I was maybe misunderstood. Of course we don't only build nursing homes for old people in Sweden. We have a very broad programme to keep them at home. But the three-generation family is a thing of the past in modern high standard society. Through our programmes old people keep fit on the average till 80 or 84. After that when they are ill they are ill in such a way they can't be taken care of at home and then they go to the institutions.

Evans:

Dr. Rexed, you mentioned that the promotion of health was an important priority. I want to ask the panelists now how this is reflected in the budgets of their countries.

Prywes:

I can't answer your question by percentage or money. In our health centres we have a team approach to health education which, I regret, doesn't include the physician. The promotion the team does is in the language of the people, by which I mean their slang and building up natural confidence to be able to reinforce medical instructions. As a rule, the neighbourhood nurse, for example, spends two out of seven hours a day on promotion and health education. Of course in the Kibbutzim it's much easier because of collective responsiveness and responsibility.

Evans:

Dr. Rexed, I know Sweden is developing health centres as well, but I believe your approach to health propaganda has been a more central one than Dr. Prywes has described. How effective has that been?

Rexed:

I don't think central information alone can be effective. Developing materials centrally is useful but the dissemination must be through groups such as schools, family, labour unions, etc. Health education, however, is too narrow a view. Health promotion comes through other things as well - preventive work through guidance clinics, for instance, or improving work environments to minimize risk. I would also include social services in general which keep people well by maintaining the balance Dr. Cornillot described. Health services take about one third of the total health and social welfare budget in Sweden which means one third of 60 billion Swedish crowns or about 20 billion crowns.

Cochrane:

We in the United Kingdom have a reasonably good health service. We have done little about health education, though, for the reason that there is no published evidence of its effectiveness. Subsequent smoking habits don't seem to be affected by propaganda in schools, for instance. I think we should continue, nevertheless, and I agree with the local health centre approach. A recent evaluation, by the way, gave rather alarming results: out of eight trials, untrained social workers were as effective as trained ones.

Tremolières:

Why is health education about food so ineffective? Partly because nutrition is treated like a specialized field instead of the broad synthesis of many disciplines that it is. Partly because the basic knowledge in nutrition is not at our disposal. Educating the public is extremely difficult because our food behaviour is really our mother's food behaviour or our father's food behaviour. Here in France in the school canteens we don't even encourage the boys and girls to respect the act of eating. Instead it's the faster they eat the better. We do not teach them the power food has for their own health.

It's from the people, the patients, that we must learn what research needs to be done. If we doctors really listened to our patients, that would be true democracy.

Consider what we do in alcoholism. I think it's nothing. The people who do something are the alcoholics themselves. I am now starting something similar for obesity. We must balance the pressure of the society with the liberty of the individuals.

Evans:

Taking up from your last point, Dr. Tremolières, I wonder how effective staff in the health services agencies have been in noticing the need for policy changes and signalling that need to central or government levels.

Prywes:

I would like to go back to Dr. Cornillot's linkage between the health services and the health universities. Since we have instituted such linkages medical personnel have been much more involved in health education. To answer Dr. Evans' question, these linkages help inform policy-makers also. Health teams and medical students participate in local planning, for instance by the regional or mayor's council. To thus link the regional health and education systems together helps in building a bridge with the political decision-making body.

Rexed:

Because there is too much influence from the research and hospital side and not enough from the community health service side, politicians don't get the true picture of the country's health needs. This is understandable of course. If we put together the information we have and analysed it in the right way, it would tell us what the needs for future development are. Epidemiology, for example, is only weakly developed in my country. Perhaps Dr. Cochrane would describe how to set up an information system to help us guide the politicians.

Cochrane:

I am glad to hear there is some use for epidemiologists somewhere!

Let me answer by warning you against too easy compliance with demands for programmes, especially when they haven't been evaluated. We get infected, for instance, by wealthy countries like Sweden and the United States which people visit and come back insisting on pap smears or coronary care units or whatever. Always insist on evaluation first.

Evans:

Considering our now broader concept of health, would you recommend changes in the education of doctors and other health personnel?

Rexed:

I think training all personnel to work in the team approach is essential. It is not a solo performance that anyone does anymore.

Cochrane:

I agree about the team approach. I'm depressed for education, however, because of the inconclusiveness of experiments. Innovations are called experiments but have no control. That will make for slow progress in education.

Tremolières:

There must be a change in the education of physicians. They need a strong, broad base in general biology instead of bio-chemistry separate from physiology separate from histology, etc. A real understanding of general biology is called for.

Prywes:

I have found medical and nursing school students very eager and interested in broadening the concept of health. Had our students been here this morning the speakers would have been interrupted every three minutes by their enthusiastically active participation.

Part Three

THE REGIONAL HEALTH UNIVERSITY: CONCEPT AND MODELS

I

THE UNIVERSITY OF THE HEALTH SCIENCES:

Some Notes on a Conceptual Model for Optimizing Education in the Health Professions

by

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A paper prepared for the Conference
and introduced in plenary session, 17th December, 1975

1. The idea of the Health Sciences University

The concept of the university of the health sciences is today in an early state of formation and thus subject to a wide range of interpretation and programmatic expression. No single definition of the idea and no single model are likely to be very widely accepted. None the less, the concept is worth delineating, at least in its essential features. The most we can hope to achieve is an operational definition which will provide the basis for further discussion, comparison and modification.

I shall draw freely upon personal experiences with the maturation of this concept, in a number of new institutions. These institutions are the following: i) the Hunterdon Medical Center in New Jersey - an experimental, university-associated community hospital providing comprehensive care to some 70,000 people, and deeply involved with teaching at several levels; ii) the University of Kentucky Medical Center - a multi-school university hospital complex (medicine, nursing, dentistry, pharmacy, allied health), oriented to its region; iii) the Health Sciences Center of the State University of New York at Stony Brook - a multi-school, multi-hospital, regional center which Dr. Fox describes in more detail on pages 315-319; iv) the University of Tennessee Center for the Health Sciences - a multi-school (medicine, nursing, dentistry, pharmacy, allied health, basic sciences), multi-hospital, regional health sciences complex, with three branch clinical campuses embracing an entire state, and v) the Yale-New Haven Medical Center - a new form of organisation built around a corporate entity responsible for co-ordinating activities of medical and nursing schools, university, hospitals and community.

I do not intend to describe any of these programmes in detail. I mention them simply to acknowledge the sources of those experiences and cogitations which have eventuated in the concept set forth here. I have published some of my observations on these experiences (references 1-9).

The distinguishing academic feature of the university of the health sciences is its uniqueness as a multi-disciplinary arrangement of schools and faculties in the health sciences, bound together by a common mission, conjointly defined, and pursued in a co-ordinated and integrated fashion. The emphasis is on the optimal articulation of educational programmes, research, and service in the health sciences with community and regional needs. Integrated deployment of resources in money, personnel and facilities is a central organising theme.

Additional elements include integrated academic programmes among all professional schools and between educational and service institutions in a region. Emphasis is placed on an overall mission which unites educational and service components, and which partitions functions among the participating institutions. The range of commitments of the health sciences university must be very broad, extending from molecular biology through the basic and clinical sciences, and including social and community medicine. A correspondingly wide spectrum of faculty and student interests is essential - as is some form of governance which assures participation of all components in establishing the mission and the accompanying functions of each of the co-operating units. The distinguishing feature, therefore, of the university of the health sciences is its mission orientation, achieved through a synergistic set of relationships in a regionalized, multi-institutional, multi-functional, multi-located matrix.

There is no single administrative or organisational schema which will assure this synergism. But, as in the academic dimension, there are some essential organisational features which must be provided if the integrity of the academic concept is to be retained. One essential is a unified, visible administrative apparatus, under a definable executive officer whose major responsibility is the definition and pursuit of the overall mission. The precise pattern of organisation is not as crucial as the fact that the faculties, deans and students of the several professional schools are joined together in a co-ordinated academic structure in which decision-making and priority-setting are co-operatively pursued.

Ideally, the university of the health sciences should serve a predetermined region and include all the institutions - education- and service-oriented - which provide health services or which educate health professionals. The university itself becomes an extended organism, not limited to a specific place but providing an aegis under which a wide variety of programmes can be carried out. There is room for a broad range of combinations of the academic and organisational elements I have just described. Organisation, like structure, should follow function. Function, in turn, should be expressed in terms of social and community needs. The number and kind of health professionals must be related to those needs. The entire matrix should be shaped by an academic plan which is the blueprint of the commitments and goals the health sciences centre sets for itself.

No university health sciences centre in the US conforms to the specifications outlined above. There are two institutions which carry the title of "health sciences university" - the Chicago University of the Health Sciences and the Medical University of South Carolina. The Medical College of Georgia, the University of California at San Francisco, the Upstate and Downstate Centers of the State University of New York, and the Health Sciences Center of the University of Tennessee are examples of multi-school complexes not reporting to the president of a general university. They are under the administration of a chancellor or president and function as free-standing campuses, although they are part of statewide university systems.

The more common pattern in the US is that of the academic health centre, organised as an integral part of a general university campus under a vice-president for the health sciences who reports to the president of the university. There are many variations in structure and function among these institutions. They incorporate differing combinations of the elements of a health sciences university, as defined in this paper. None of them, however, is at present comprehensive enough to include the full spectrum of optimizing relationships which are detailed below.

The academic health sciences is a concept barely two decades old in the United States. It is still developing, and moving asymptotically toward the idea of the health sciences university. The mechanisms, motivation and co-operation necessary for realization of the total concept are still wanting. The fuller development of the integrated mode I shall describe is impeded by the dominance of the medical school over the other professional schools, the many problems inherent in the operation of large university hospitals, and a whole host of conflicting tensions generated by economic, political and social forces outside the universities.

In several institutions - Cornell, Dartmouth and Yale - a new organisational mechanism is being explored to meet some of the problems created by the conflicting pressures which tend to drive a wedge between medical schools and their university hospitals. In these institutions, separate corporate entities are charged with the co-ordination of long-range planning, adjudication of differences, design of programme plans, and priority-setting. These corporate entities do not have direct operating authority, but make recommendations to the governing boards of the constituent institutions which implement those recommendations. The corporate entities operate at the junction points between the professional schools, and between these schools and the university, the community, and the other hospitals and agencies in the region.

This corporate organisational pattern is too new to be evaluated. It offers an alternative to the dominant arrangement. Whatever its success, the co-ordinating corporation must address the same issues we shall outline for the university of the health sciences. The mode of implementation may be very different, but the principles for optimization should be the same. In short, regardless of the way the schools and hospitals of the health sciences centres are administratively organised, they must all confront the same problems. And, to meet these problems most effectively, efficiently and economically, they must all exhibit certain essential organisational relationships. These are independent of the rubric "health sciences centre", "health sciences university", or "medical centre corporation" under which they might function.

2. Essential elements for a University of Health Sciences

Though no university medical centre as yet fulfils all the requirements for a true or complete university of the health sciences, there is value in defining more closely what those requirements might be. If we have a discernible and definable model as an end point, it may be easier to determine when we are close to realization, or to recognize wherein we have not achieved the full potentialities of the idea.

For this reason, I shall describe in some detail the three sets of interrelationships which must be optimized to realize the idea of the health sciences university. They are: i) the relationships within the centre between the schools of the different health professions, ii) the relationships between the nuclear elements of the university of the health sciences and the educational institutions in its region, and iii) the relationships of the nuclear elements to the regional hospitals. I must, for the sake of clarity in presentation, dissect these relationships free of each other. The dissection admittedly does violence to the unity of the concept; I hope I can keep the unity of the idea before you, even as I examine its component parts.

A. Interrelationships within the "Nuclear" Elements

The "nuclear" elements of a university of the health sciences are the medical school, the university or primary teaching hospital, and the other professional schools, which can exist in varying combinations - nursing, allied health, pharmacy, dentistry, basic sciences, social welfare, optometry, podiatry, veterinary medicine. Ideally, these schools should be united by a common mission which transcends their individual missions, and which aims to provide manpower and advance new knowledge suited to the major health needs of the society they serve.

What is essential from the point of view of optimization in a university of the health sciences is that the relationships between professional schools be such as to allow for duplication of facilities or faculties, to provide common educational experiences whenever possible, and to prepare health professionals with a common language and an understanding of each other's roles.

What is essential from the point of view of optimization in a university for the health sciences is that full advantage be taken of the academic and administrative relationships of the units within the "nuclear" centre to address pressing problems in health care and education of health professionals. One such optimization is that of physical and personnel resources. Sharing laboratories and classrooms and providing common courses in the clinical and basic sciences, while obvious, are often unrealized objectives.

More important however, is the development of common educational programmes wherever this is feasible. Much needs to be done to improve the capacity of health professionals to work together, to understand each other's roles, and to reduce the fragmentation of their roles and functions in the care of patients. In most countries the number of health professions is expanding, as smaller and smaller segments of patient care are allocated to different groups of health workers. There is an urgent need to reexamine what each professional does, to see whether roles and functions can be condensed rather than expanded. This is possible only in a setting in which the several schools of the health professions are academically and administratively united. Deans, faculties and students of the several health professions must examine this question together or we will eventually all be submerged in the growing size, complexity and specialization of "the team" assigned to even the simple tasks of patient care.

An essential corollary is the whole matter of interdisciplinary education, the opportunities for which are existent only in the multi-school academic health complexes. This is a subject with varying definitions, as the conference held in 1972 by the Institute of Medicine of the National Academy of Sciences in the US attests (Reference 10). That conference strongly urged that all academic health centres undertake programmes to educate health professionals together wherever feasible in clinical, basic and behavioural sciences. Emphasis was placed on the importance of common clinical experiences and on new models of team care which are best explored in the clinical facilities associated with academic health centres. There are ample, unrealized opportunities for common course work in the basic sciences among several of the health professions. Common study of the social and behavioural sciences and bioethics can even more easily be shared by students of medicine, nursing, allied health, pharmacy, and dentistry.

Common planning of curricula which focus on these opportunities is a rarity in most centres today. In the university of the health sciences the curricula of individual professional schools should be a concern for the total health sciences faculty. Out of these considerations, a common curriculum could be developed in which all students entering the health professions can share. This would be followed by branching into medicine, nursing, etc., depending upon the student's particular interests and capabilities. A health sciences university could undertake the education of health professionals earlier than professional schools now do in order to provide a common base in the principles of health care and the sciences basic to them. With this base, students might then find "upward and lateral mobility" a reality rather than an unfulfilled possibility. Conceivably students might then progress through the bachelors, masters and doctoral levels successively, entering or leaving the mainstream as their needs - personal and professional - might dictate. A system of multiple entry and exit points and career development might then eventuate. No health worker would be locked in to any level or field. He could throughout life use his experiences and education to gain advanced standing toward a new or expanded goal.

Another important feature in the interrelationships between the central elements in the health sciences university is the co-ordination and optimal use of clinical settings for the education of all students. The demands for clinical and practical education in the health professions are increasing daily. Clinical faculties are often overloaded with demands for teaching. In many instances, in the US at least, there is overlap and conflict between schools in their use of the same facilities. Co-operative planning and conjoint use of their facilities by several schools would obviate the growing difficulties in this realm.

In essence then by cultivating the opportunities for academic and operational co-operation between the several schools in a health science university, some major problems (manpower utilization, communication between professionals, use of the health team, and flexibility of educational programmes and "tracks") can be better addressed. Optimization is impossible when the several schools are isolated entities, independently pursuing their separate goals. I have made no attempt to outline these optimization possibilities fully, but rather have selected a few to illustrate the kinds of issues which are more readily addressed in a university of the health sciences.

B. Relationships between the "Nuclear" Elements and other Educational Institutions

Providing that the interrelationships between the nuclear elements can be secured along the lines we have indicated, the next level of integration of the university of the health sciences is with other institutions in the region which are conducting programmes in the education of health manpower. In the US and other countries, the task is ordinarily distributed among institutions of different types. Thus in the US, community colleges, four-year colleges, and universities each train health workers. The community colleges concentrate on the more technical fields, providing two years of education and experience and granting the associate degree predominantly in the allied health fields and nursing. The four-year colleges educate to the baccalaureate and occasionally to the masters level - usually in nursing, allied health, social welfare or pharmacy. The universities, of course, provide all doctoral level education as well as a preponderance of masters degree work in allied health, nursing and dental medicine.

In very few instances is there a genuinely integrated effort uniting the university health centre with the four-year and two-year institutions. One important responsibility for a true university of the health sciences is to include these other institutions as participating members of its programme - i. e. to include them under university aegis for that portion of their activities related to health. This must, however, be done without compromising the status of the other institutions and while preserving their administrative autonomy, a difficult diplomatic task. Success depends on dedication to the idea of the health sciences university as an aegis under which different institutions may work toward common goals, rather than as the place where the nuclear elements are located.

In this conception, the academic programmes at the various educational institutions bear some close relationship to each other. Co-operative curricular planning is a necessity if students are to be enabled to move easily from one institution to another, and to pursue a "career ladder". Transfer of academic credits permits students to build on previous educational accomplishment in moving to the next higher level of responsibility or professional sophistication. Ideally, such a consortium of educational institutions of different types would be bound into one overall academic programme. In this way, a student could enter at any point or level and move easily to any other point in the educational matrix. Thus "upward and lateral mobility" would be extended from the nuclear units of the university of the health sciences to include all the educational institutions in the region.

There are formidable obstacles in piecing together such an ambitious mosaic of educational pathways and opportunities. None the less, its utility from the point of view of the student and of society is sufficiently manifest to make the effort worth undertaking. The difficulties, while considerable, are surmountable only in the setting of the regional, multi-institutional model of the university of the health sciences. In effect, the same kind of integration of effort, sharing of objectives and resources, and interchange of students I described within the "nuclear" centre, must exist between the external elements of that centre in the same region. In such an arrangement, the university becomes primus inter pares, extending its academic aegis and encompassing many different institutions in a combined effort to provide health manpower in the number and kind the region requires.

Such a consortium, or extended academic health centre, is requisite if the larger task of continuing education for all health professions is to be successfully carried out. In many countries the requirement for mandatory continuing education, relicensure or recertification is fast becoming a social and political reality. While the health sciences university campus per se can, and must, undertake a significant responsibility, the task is too large and too varied to be limited to that locus. Other academic institutions in a region will share the responsibility, and indeed are essential to its proper fulfilment. In continuing education, as in initial professional education, there are varying levels of complexity and sophistication; each institution in the consortium can find a segment of the spectrum best suited to its needs. Finally, the dispersal of health professionals will make it mandatory that they pursue continuing education as close to home as possible. In this way it can be more continuous, more related to practical problems, and more closely tied into the regional hospitals - which, as I shall emphasize in the next section, must themselves be a part of the extended health sciences university.

There are reasons of academic necessity in uniting the educational institutions in an arrangement such as this. However, such arrangements will further be necessitated in all countries by growing economic constraints which will make duplications of programmes and loss of time by students in meeting differing requirements in different institutions more untenable than they are today. Moreover, it is now recognized that lifelong education, periodic retraining, and even changing of professional field may be required of students and professionals. Social and political forces arising from those needs will urge educational institutions in these directions.

The most delicate and yet the most important academic relationship of a health sciences university is to the general university campus or campuses in its region. Education in medicine and the health professions cannot stand alone today. The participation in teaching and research by the basic sciences, the humanities and the social sciences is increasingly requisite. The ethical, social and political impact of medical science and technology has generated a whole host of larger issues which medicine cannot resolve without the closest contact with the university disciplines.

These university disciplines in their turn look to medicine for the knowledge it has of man in the crisis of illness, as well as for the problems medicine presents in its attempts to deal with this crisis in individuals and society.

Medicine is a paradigm of the conflict of technology and human values which will continue to be one of the more fundamental issues in contemporary society. Clearly, education and research in the health professions requires the closest contact academically with the general university disciplines. We have emphasized the importance of the unity of mission and administration of the health sciences components, since they are so complex today. But no true health sciences university can achieve its full potential without academic interrelationships with the more general disciplines.

A variety of administrative arrangements are possible. The health sciences university can be a component of the general university, as is the case in most centres in the US, or the university of the health sciences can be an independent entity as occurs in a smaller number of instances. In either case, the relationship will be effected by academic linkages of all sorts - co-operative teaching, research, graduate programmes, and use of the clinical settings of the health sciences for teaching and research by general university departments.

What is important to emphasize is that administrative arrangements may vary, and the health sciences university can even be quite autonomous, without necessarily compromising the quality or intensity of its academic exchanges with the general university disciplines. Indeed, if the university of the health sciences is not tied to one general university too firmly, it is freer to develop relationships with other general campuses and educational institutions in the manner outlined above. In any case, the detailed organisational framework for relating the health sciences to the general disciplines should reinforce the work of each set of components. The particular arrangements will vary with local cultural, social, political and economic determinants. Hopefully, the administrative arrangement will be designed to enhance the emergence of the essential elements of the concept of the health sciences university in the way adumbrated here.

C. The Health Sciences and the Community Hospitals

To attain the highest degree of optimization of the potentialities of the concept of the health sciences university, the academic relationships we have outlined must be complemented by a set of relationships with community hospitals.

The goals of modern clinical education in medicine nursing, and indeed in all the health professions, cannot be optimally realized without a larger contribution by community, non-university hospitals. On the other hand, these hospitals cannot meet the complex requirements of modern clinical education by themselves. Hence it is increasingly necessary to incorporate them in the concept of the extended health sciences university. This means a further maturation of the concept of the health sciences centres as regional, multi-institutional, multi-functional, multi-located entities, uniting a variety of academic and service institutions under a common academic purpose.

The recent renascence of interest in the non-university teaching hospital as an indispensable element in clinical education is based in several pedagogic and socio-political needs which cannot satisfactorily be met in university hospitals. We shall examine these in turn.

In every country over the past decade, there has been increasing awareness that health professionals are not being educated in the numbers and kinds, and with the attitudes most congruent with the needs of society. Regardless of the mode of organisation of their health care systems or the source of payment for services, problems of maldistribution of physicians and other professionals exist in almost every country. Clinical education has proceeded along scientific and specialized lines, and has addressed the more complex clinical problems common to a university hospital. Primary care, the more common aspects of secondary care, long-term care, and community and preventive medicine, are necessarily neglected. The university hospital, therefore, cannot meet all the educational needs of students in the health professions.

It is now believed that some of these deficiencies can best be remedied by providing significant portions of the clinical education of physicians, nurses and other health professionals in community hospitals. In these settings, students can see a wider spectrum of disorders. They can learn in an environment in which the majority will practice in the future. They can also receive some of their instruction from teachers with a major orientation to clinical medicine, either on a full- or part-time basis. Hopefully, these experiences will encourage a larger number of health professionals to enter practice in the more general fields of medicine and paediatrics, and in locations at a distance from the university centres.

Another important factor is the growing emphasis on the lifelong continuing education of all health professionals as a means of quality assurance. Continuing education seems certain to become a requirement for practice in the near future. All health professionals will then need resources for continuing education in their own communities. The most effective forms of continuing education are based in the physician's own patients, and this means primarily in the community hospital, not in the academic centres.

The current demands to increase the number and types of health professionals are putting pedagogic and economic strains on university resources. The number of beds available for the clinical education of physicians, nurses, allied health workers, pharmacists, dentists, podiatrists and optometrists, exceeds the capacity of university hospitals. Good clinical education is based on individualized instruction, in clinic or at bedside. Each student must have a sufficient number of patients with whom to react. In some universities, competition for clinical experiences among the health professional schools is already a major problem. In the US most schools of nursing, for example, must supplement the university hospital by providing supervised experiences in community hospitals.

It is, moreover, much less expensive to expand the number of health professionals provided with clinical education by using community hospitals, than attempting to build the requisite number of university hospital beds to satisfy the need.

Another factor favouring the use of community hospitals as teaching units is the observation that physicians are more apt to settle where they have taken their residencies than where they have gone to medical school. The most rapid way to improve the supply of physicians in regions at a distance from the medical centres is to establish residencies in university-affiliated community hospitals. While these residencies can be in any of the clinical specialties, most of them should be in primary care or in community and family medicine. The community hospital is the best setting for clinical education of this type - better than the university hospital.

Regionalisation is another requirement of modern health care systems which emphasizes the importance of community hospitals in teaching and service. The history of regionalisation thus far, is admittedly one of spotty accomplishment. Yet, it is clearer than ever that regionalisation is an economic and political necessity if all communities are to have access to a full spectrum of health services. The community hospital must assume a defined functional role, linking it to the university centre on the one hand, and the more peripheral patient care clinics on the other. Regionalisation of education naturally follows regionalisation of services and facilities, particularly when the needs for continuing and in-service education are considered.

Finally, the decade of the sixties has impressed upon universities the necessity for some form of active involvement with the communities in which they reside. This involvement must, on the one hand, engage some of society's more pressing needs, and on the other, must protect the universities' primary intellectual and academic functions. Through the agency of affiliated community hospitals, the academic health centres can achieve both of their essential purposes.

These social and pedagogic needs clearly point to a new importance for community hospitals as educational instruments. Indeed, many of the major goals of clinical education in the health professions cannot be achieved without their full participation. Properly organised, the university hospital and the academic health centre can be linked to the revitalised community hospitals, so that they complement and supplement each other in the total educational effort.

While I foresee a renascence of university-affiliated teaching hospitals, it is important to detail briefly why such hospitals cannot achieve their educational goals by themselves. There is a tendency in some quarters of the United States to believe that medical education could be organised in the larger and more highly organised community hospitals without reference to the university. The proponents of this view argue that such an approach would be less expensive, would result in more general and family physicians, and would orient its graduates to people, not diseases. This is an oversimplification and an extrapolation which, I believe, would not be in the ultimate best interests of society for a number of reasons:

- The necessary basic sciences components of clinical education would be totally lacking, or poor in quality;
- the necessary contact with research and clinical investigation would be difficult to maintain;
- clinical education would be deficient in experiences in the most highly specialised areas of tertiary care which even the most sophisticated community hospital might not develop;
- full-time clinical teachers are the indispensable element of clinical training. Practitioners have a significant role, but they cannot dedicate themselves wholly to teaching and clinical sholarship;
- non-university hospitals have a tendency to develop a two-level system of care - private and public, the former comprising the faculty's personal patients, and the latter the patients who are the major responsibility of the house staff;
- there is the temptation to see students in a service, rather than an educational, role. This is a particularly strong tendency in the case of house staff;
- the contributions of behavioural and social sciences and the humanities in medicine would be missing. These disciplines will become particularly important to all health professionals in the years immediately ahead.

It is clear that the non-university teaching hospital is becoming necessary to meet certain special requirements of modern clinical education. Yet, it is equally clear that separated from university influence it is insufficient and indeed unequal to the task. One conclusion is increasingly apparent - the pedagogic deficits of both the university and the non-university hospitals can be neutralized by a co-operative effort between them. Together, they complement and supplement each other in essential ways.

New patterns of involvement with academic health centres are required precisely at a time when the future of non-university teaching hospitals is being re-examined. Such hospitals assumed teaching functions in this century when the internship, and then the residency, became a commonplace prior to entry into practice. The number of available places proliferated enormously, eventually exceeding the number of American graduates by a wide margin. *

These hospitals varied in size, location, spectrum of services, the resources devoted to teaching, and the capabilities of their staffs. The strength and nature of university affiliations varied widely. The result was a wide difference in quality of instruction. With the exception of a small number of large non-university institutions, the majority have had to confront a series of new issues - more rigorous requirements for clinical teaching, need for closer integration of basic sciences, recognition by students of the advantages of an academic

* In 1971, when there were 9,551 medical graduates, 15,442 internships were available in affiliated hospitals.

environment, and an over-emphasis on service. These trends were clearly delineated by the Millis Commission in the mid-sixties (Reference 11). The Commission's recommendation that graduate as well as under-graduate medical education should come under university aegis is becoming a reality in the US.

As a result, we can envision only two courses for the non-university hospital in the immediate future. Either it must assume a more intimate function in a university academic health centre, such as we will describe shortly, or it will have to give up its teaching so far as interns, residents and students are concerned - though it may still carry out a continuing education programme. The middle ground is no longer tenable.

What organisational and functional relationships would optimize the contributions of non-university teaching hospitals to the education of health professionals? This question requires that we examine briefly the metamorphosis of the academic health centre - particularly as it has been occurring in the United States.

Approximately two decades ago, universities began to appreciate the need for some co-ordination of the academic administration of their several schools in the health professions and their university-owned or affiliated hospitals. University presidents delegated this co-ordinating function to vice-presidents, chancellors, or provosts for health affairs. Under their leadership, much closer co-ordination of mission, budget, and academic programmes of schools of medicine, dentistry, pharmacy, allied health and nursing has been achieved. Today there are some 85 members of the Association of Academic Health Centers in the US - each headed by a chief executive officer reporting usually to the university president.

To varying degrees these centres incorporate a university hospital, owned by the university or under its very strong influence, together with a number of affiliated community teaching hospitals. While the actual arrrangements are much too variable to be reviewed here, I wish to delineate the essential elements of the modern-day academic health centre emerging in the US - especially as it relates to the effective utilization of the non-university hospital as a teaching instrument of equal importance with the university hospital.

To begin with, academic health centres now appreciate that they have a regional responsibility, and that for many reasons they must play a role of primus inter pares among the other hospitals in the region. The university academic health centre, therefore, is no longer merely a campus or a place geographically pinpointed in some large city. Rather it is an aegis, an influence, an extended organisation consisting of many units - the several schools of the health sciences, the university hospital, the hospitals of the community (non-profit, veterans, state and municipal), and a variety of other health agencies.

In this arrangement, the university hospital has certain functions of its own, and the community hospitals have another set of academic responsibilities. Thus, the university hospital concentrates on what it does uniquely - i. e. provide highly complicated, tertiary care; specialized professional and technical services, and clinical and basic research. It can provide medical, nursing, pharmacy and dental students with a portion of their clinical experience - that associated with tertiary care. It trains residents and fellows for the more technical specialities; it concentrates its academic efforts on those who are preparing for academic or investigative careers; it serves as tertiary care back-up for the community hospitals; its staff consists of full-time academic clinicians, whose major concerns are specialized, investigative and scientific.

In this pattern, the community, non-university teaching hospital assumes a complementary set of functions - it provides secondary and some primary care; it acts as back-up for primary care units in its region; its staff is made up of full-time clinical teachers whose major emphasis is on clinical care and teaching; its staff also includes the practising physicians of the community who attend their patients in the community hospital. Both types of professional staff engage in teaching. Their function is to provide the major educational experiences for those students and house staff members who have elected careers in the practice of medicine - either in general and family medicine or the more broadly based specialties. This faculty also can play a major role in the basic third and fourth year clinical clerkships for medical students.

The non-university teaching hospital can serve the same type of functions for students of dentistry, nursing, pharmacy, and allied health professions. Each profession needs to encourage the majority of its practitioners to undertake clinical and community practice in the more general sectors of their fields. The university-affiliated community hospital is the place for this kind of education, for the reasons already outlined.

This functional division between the university and the community hospitals is central to the idea of a modern university academic health sciences centre. To be truly effective, the centre must include many types of institutions beside the general hospitals - for example, chronic and long-term care, psychiatric hospitals, neighbourhood primary care clinics, and agencies dedicated to preventive medicine and public education. All are essential in health care today, and students in all the health professions need experience in each of these modalities. No university or community hospital encompasses this whole spectrum of services. The regional consortium of institutions with a common academic mission integrated under university aegis is the most reasonable way to provide the whole gamut for medical and other students.

In this way, some of the most pressing demands made upon universities today can be met without dilution of the more specialized teaching, research and service, which only the academic centres can pursue in depth. Primary care and family medicine are cases very much in point. While every academic centre should have a department or division of family medicine to provide academic direction, the teaching and practical experience is best conducted outside the university hospital. The same is true of ambulatory care on a continuing and comprehensive basis, as well as experiments with new models of delivery and deployment of health professionals to meet the great volume of ordinary health needs of the population.

A new conception of the organisational and functional structure of the academic health centre is emerging, in which university and non-university hospitals can complement each other. The result is a continuum of educational experiences, extending from doctors' offices and group practices, through primary care centres and community hospitals to the university centre. Some of the responsibilities of these centres, envisioned in the Carnegie Commission (Reference 12) and Coggeshall (Reference 13) reports and prompted by health legislation in the US are within realistic reach.

D. The Tennessee Plan

Of the several modes of the health sciences universities with which I have had personal experience, there is one which best epitomizes many of the essential elements of the university of the health sciences. This is the "Tennessee Plan" currently being implemented by the University of Tennessee Center for the Health Sciences in Memphis.

The "Tennessee Plan" originated in a study conducted in 1971 under the auspices of the Tennessee Higher Education Commission and the University of Tennessee System (Reference 15). The study revealed several serious problems in manpower distribution: i) the physician-to-population ratio in the state was among the least favourable; ii) the state retained only slightly more than one-third of the physicians who received their medical education there; iii) there was a paucity of physicians in rural areas; iv) there were insufficient family and general practitioners; v) there was a serious lack of residency opportunities in all fields, and especially in family medicine; and vi) there were parallel deficiencies in all the other health professions.

The state of Tennessee is a long, narrow parallelogram containing 42,000 square miles, with almost 500 miles separating the state university's medical centre in Memphis and the most eastern point in the state. The population is approximately 4 million, concentrated in four to five urban centres. Tennessee is in many ways three states culturally, geographically and economically. The eastern third is dominated by rugged mountains, the middle consists of rolling hills, and the western third is part of the flat basin of the Mississippi River.

One proposed solution to the manpower problems was to establish a new medical school in the eastern third of the state. The expense of such a venture, the inevitable lag period of about a decade before graduates of a new school would have any impact on manpower, and immediate need for residency opportunities and expansion of continuing education all militated seriously against a new school. A more rapidly effective and more economical plan was recommended by the Commission into immediate operation by the university system.

Clinical campuses were established - one at Knoxville and one at Chattanooga. Both cities had existing hospitals which could be used for teaching medical students in their clinical years. In addition, existing programmes at several other locations in the state were expanded: Martin, Jackson, Tri-Cities and Nashville (see Figure 1). Each of these "branch campuses" became an extension of the academic and continuing education programmes of one or more of the six schools of the "Nuclear" centre already existent in Memphis (Medicine, Dentistry, Nursing, Pharmacy, Allied Health and Basic Health Sciences). These branch campuses are today under the administration of the Chancellor and the Deans of the component schools at Memphis. The branch campuses themselves are slated to become regional centres for continuing education, family practice residencies and clinical education for students in the health professions. Family Practice residency programmes are already established at the larger centres - Chattanooga and Knoxville - and another is operational at Jackson.

The branch campus concept provides opportunities for students in all health professions to experience community dimensions of practice; it expands the clinical facilities available for training without requiring that university hospitals be built; it enables enrolment to be expanded without duplication of basic sciences facilities, which are concentrated in Memphis; each clinical campus participates in the overall University of Tennessee university system and shares the resources of its general as well as its health sciences facilities; there is close articulation with regional community needs. There is, in the whole plan, visible evidence of concern and involvement of the total university in meeting the health care needs of the state it serves.

Figure 1 summarizes some of the programmes already extended into each of the branch campuses in the Tennessee Plan. In addition, the "nuclear" centre at Memphis is itself the focus of regional co-operative arrangements in metropolitan Memphis. A wide variety of institutions is involved (Figure 2). Each is a constituent element in the academic and clinical educational programmes of the Centre, and each participates in varying degrees in research and continuing education in co-operation with the several health professional schools.

Figure 1

THE UNIVERSITY OF TENNESSEE
CENTER FOR THE HEALTH SCIENCES
State-wide involvement

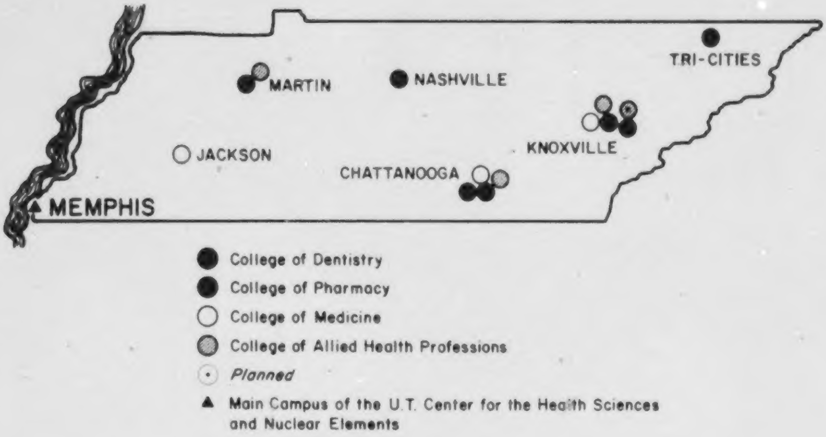
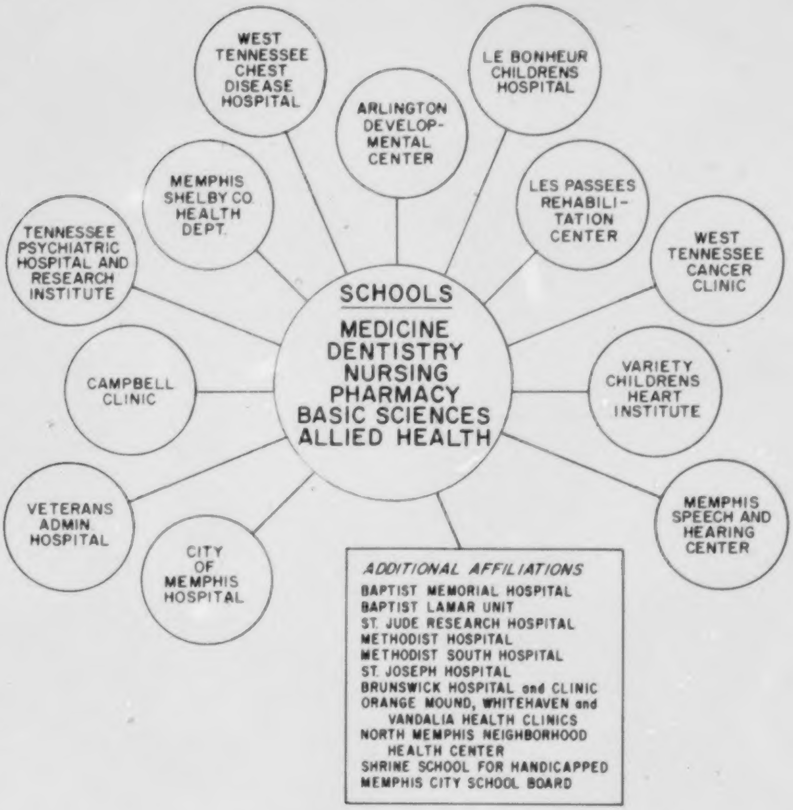

TRI-CITIES
MARTIN
NASHVILLE
KNOXVILLE
JACKSON
CHATTANOOGA
MEMPHIS
College of Dentistry
College of Pharmacy
College of Medicine
College of Allied Health Professions
Planned
Main Campus of the U.T. Center for the Health Sciences and Nuclear Elements

Figure 2

THE UNIVERSITY OF TENNESSEE CENTER FOR THE HEALTH SCIENCES

"Nuclear Elements"


SCHOOLS
MEDICINE
DENTISTRY
NURSING
PHARMACY
BASIC SCIENCES
ALLIED HEALTH
WEST TENNESSEE CHEST DISEASE HOSPITAL
ARLINGTON DEVELOPMENTAL CENTER
LE BONHEUR CHILDRENS HOSPITAL
MEMPHIS SHELBY CO. HEALTH DEPT.
LES PASSEES REHABILITATION CENTER
TENNESSEE PSYCHIATRIC HOSPITAL AND RESEARCH INSTITUTE
WEST TENNESSEE CANCER CLINIC
CAMPBELL CLINIC
VARIETY CHILDRENS HEART INSTITUTE
VETERANS ADMIN. HOSPITAL
MEMPHIS SPEECH AND HEARING CENTER
CITY OF MEMPHIS HOSPITAL

ADDITIONAL AFFILIATIONS

BAPTIST MEMORIAL HOSPITAL
BAPTIST LAMAR UNIT
ST. JUDE RESEARCH HOSPITAL
METHODIST HOSPITAL
METHODIST SOUTH HOSPITAL
ST. JOSEPH HOSPITAL
BRUNSWICK HOSPITAL and CLINIC
ORANGE MOUND, WHITEHAVEN and VANDALIA HEALTH CLINICS
NORTH MEMPHIS NEIGHBORHOOD HEALTH CENTER
SHRINE SCHOOL FOR HANDICAPPED
MEMPHIS CITY SCHOOL BOARD

The central elements of the concept of the university of the health sciences are listed in Table 1. The University of Tennessee has incorporated all of these to varying degrees in its current plan. This is occurring also in the functioning programme of the Universities of Illinois and Indiana.

At Tennessee, each of these elements is being developed further. The Tennessee Plan addresses the major community problems in manpower delineated by the Commission on Higher Education, problems common to many communities in the world. It offers an economical alternative to establishing multiple schools of medicine and the other health professions; it optimizes academic resources and extends the university effectively into the community. At full development, it should come very close to being a model for the "university of the health sciences" as we have discussed it in this essay.

E. Recapitulation

This essay has tried to outline the essential elements of the concept of the health sciences university, in general, and then as exemplified in one particular case - the University of Tennessee Centre for the Health Sciences. This is a distillation of personal experiences with the evolution of the concepts in different locations in the US. The principles are not necessarily the only ones. They are the ones I have found most pertinent to the concept. Other models may be more suitable for other countries. But everywhere there will be a certain residuum of common elements which define the university of the health sciences. I hope I have discussed enough of these to delineate a "critical mass" needed to make the concept a concrete reality.

Table 1

ESSENTIALS OF A UNIVERSITY OF THE HEALTH SCIENCES

Multiple professional schools :
medicine, dentistry, nursing, allied health, basic sciences, social welfare, optometry, podiatry;

Common mission and goals:
co-operatively determined;

Administrative unification:
under a single chief academic officer;

Multi-institutional:
health professional schools, university hospital and community hospitals under one academic aegis;

Regional orientation:
congruence between regional needs and number and kind of health manpower, services and research;

Comprehensive teaching and research programmes:
spectrum range from molecular biology and basic research to clinical sciences and social and community medicine;

Academic integration between component schools:
interdisciplinary education, shared basic sciences, common courses in social sciences and humanities;

Continuum of education:
from pre-professional through professional to continuing education under single academic co-ordination;

Co-operative definition of functions:
among health professions and experimentation with new role models;

Humanities and social sciences:
closely integrated into education in all health professions.

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II

THE REGIONAL HEALTH UNIVERSITY:

A Model of Regional Integration and Co-ordination of Education, Health Care Delivery and Organisation of the Health System

by

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A paper prepared for the Conference
and introduced in plenary session, 17th December, 1975

1. Introduction

An essential requisite which has been postulated for analysing the problems raised by prospective changes in the university system is research into new forms of functional organisation for university structures, based on a fresh definition of their tasks and objectives.

Papers already presented at this Conference have attempted to define an improved approach to the university's function in the light of its responsibilities to the regional community or the inter-regional structures of the national community. From this has risen the idea that certain university structures should be capable of taking on fairly general regional responsibilities, within the framework of clearly specified training courses and activities. These interdisciplinary subject-oriented structures, fulfilling a regional function and co-ordinated at inter-regional level, may cover specific fields, some though not all of which have been listed in the different working documents supplied.

Among the subjects or themes that can best promote interdisciplinary training and research as well as smoothness of adjustment to the community may be mentioned:

- living conditions and health;
- urban management, the environment and the organisation of human communities;

- rights, obligations and protection of the individual, and the individual as related to the community;
- the historical, cultural, social, economic and technological organisation and evolution of communities and societies;
- knowledge, development, exploitation and protection of natural resources (land, minerals, the oceans, air and space).

The aim of this paper is to outline the main characteristics of an interdisciplinary subject-oriented university structure devoted to health problems. Before dealing more particularly with the subject of health, it would seem well to indicate characteristic aspects that an interdisciplinary subject-oriented university structure might assume, regardless of the subject.

Only in the second part is it proposed to deal more particularly with the characteristics of a Regional Health University conceived as a post-secondary structural model co-ordinating the training of health professionals, the provision of health care and organisation of the health system.

This Health University model has been designed along general lines so that it can more specifically be analysed in each Member country. Depending on the characteristics of the training, health care and health supervision systems found in the different countries, it will be possible in the course of presentation to identify the major obstacles that must be overcome, or conversely any facilities that exist. In the ideal case, entire facets of an interdisciplinary subject-oriented structure such as the Health University may prove to exist already in the health and health training systems of certain countries.

2. The Concept of an Interdisciplinary Subject-Oriented University

Existing university structures in most countries are generally unable to perform all the duties that might be required of an interdisciplinary subject-oriented university with a regional function.

In various countries there is a number of elements that can be combined for achieving this type of structure. For this reason it seems best to list, under a series of headings, the factors that should characterize a subject-oriented structure in general:

A. The Subject

In an interdisciplinary university structure the subject is a decisive unifying element, whether within the structure or as regards relations with the community. For this reason the subject selected should be so broad as best to promote a concerted approach among different disciplines and sufficiently practical to be grasped promptly by the surrounding community.

Several subjects have been suggested above. Each corresponds to a set of problems and concerns necessarily closely affecting the community. Each, too, enables existing curricula to be brought in or re-arranged, while new curricula can be prepared as the characteristics of the subject and any specific regional or inter-regional problems may require. The subject should necessarily have the effect of unifying several disciplines and specialties normally divided among various post-secondary training structures.

The co-ordination of various types of curriculum around one common subject should encourage the development of new forms of education; in particular teaching people how to work in teams and in the field. This dimension of training and initiation into the practical performance of activities in the community seems to be one of the most important pedagogic characteristics of interdisciplinary subject-oriented structures.

In the research field the subject is also a decisive factor for defining the main lines of theoretical and applied research, serving the purposes of both the subject and regional or inter-regional requirements.

Compared with specialized monodisciplinary institutes and structures, whose task is to maintain and develop the technology suited to each speciality, in an interdisciplinary subject-oriented institute the research resources in each discipline have to be continuously co-ordinated for the benefit of lines of research issuing directly from the subject and the region. Constant dialogue and interaction as between information issuing from some field of applied research and that from specialised institutes indicate the special nature of the contribution interdisciplinary subject-oriented institutes can make in developing and orientating all types of research.

Furthermore the interdisciplinary subject-oriented institute is the custodian of a particular type of research which is difficult to deal with in the traditional university. This consists of research activities associated with the continuous analysis of needs to be met in the regional sector covered by the university. In line with such a continuous analysis of needs, solutions must be found that are best tailored to the characteristics of the region and the resources available to the community for meeting the demand. This operational type of research can hardly be undertaken by specialized monodisciplinary institutes, since this calls for centres engaging in a continuous process of analysis in order to collect information and develop the necessary indicators required for assessing the situation.

B. The Region

The term region is necessarily ambiguous on several counts, since it may refer to an administrative district, university area or else to geographic, cultural or demographic characteristics. It has, however, been deliberately used to define the concept of territorial responsibility on the part of an interdisciplinary subject-oriented institute.

There can be no question of providing any narrow definition for the region, since depending on the subject each institute may cover a sector of varying extent. For each institute the essential feature of the region is the minimum geographic, demographic, cultural, economic and social unit required for recruiting students into the various curricula, able to provide jobs to the various types of graduate turned out by the institute, and of sufficient size to promote a productive symbiotic relationship between the community and the university's training and research facilities. This minimal requirement varies widely, depending on the density of the population, means of transport and natural obstacles, language barriers, the degree of industrialization and the economic level of the region concerned.

The notion of region should not constitute an end in itself for regional interdisciplinary subject-oriented institutes, for each institute must necessarily co-ordinate each activity with other institutes dealing with an identical or different subject at inter-regional level. The reason why a regional interdisciplinary subject-oriented institute has a special contribution to make is because the other institutes can benefit from its activities and research findings. The specific nature of this contribution may fully justify the regional interdisciplinary subject-oriented institute's undertaking on behalf of several regions activities owing to its particular situation and type of work.

C. Objectives and Responsibilities

A regional interdisciplinary subject-oriented institute has specific responsibilities in the matter of training, research and regional co-ordination.

With regard to training the responsibilities of such an institute directly stem from the evaluation of training needs in the subject concerned at regional and possibly inter-regional level. The job of the institute is to train professionals in the sector concerned by means of a group of teaching facilities offering the necessary curricula to the candidates. A regional subject-oriented institute must guarantee a process of continuous change in training programmes, depending on the needs to be served and advances on knowledge. This responsibility of keeping abreast of needs and training is an essential feature of regional subject-oriented institutes.

In the field of research, it is not the task of regional subject-oriented institutes to maintain and introduce a wide variety of techniques belonging to each discipline, but rather to promote all forms of interdisciplinary research relevant to the subject and region. This interdisciplinary research necessarily represents one of the key contributions of the regional subject-oriented institute towards the advancement of knowledge. Methodologically, this specificity of approach to research activities reverses the intellectual approach most commonly used.

Thus, unlike the specific approach adopted by monodisciplinary institutes, where promotion of the most fundamental type of research is a prerequisite to any development in the field of applied research, regional subject-oriented institutes must necessarily define practical research themes on that basis of which each speciality can ensure optimum feed-back from its participation in the study of an interdisciplinary problem. It is a particularly fruitful method of approach to research problems, which are usually inadequately dealt with on a monodisciplinary basis.

At regional level the responsibilities of an interdisciplinary subject-oriented structure are also very specific. Particularly relevant are co-ordination and observation, and the task of informing and educating public opinion in the regional community.

Co-ordination and observation are essential for achieving symbiosis between the university structures and the regional community. To the subject orientation of the regional interdisciplinary facility must of course correspond an area vital for the community, usually at the interface of cultural, social, economic and technological concerns. By means of the methodology developed by the university and the possibilities for observation offered by the community, the subject-oriented structure must be fully able to play its part as a permanent information and analytical instrument for the benefit of the community. The impartial, neutral attitude needed for organising studies is a constraint which the subject-oriented structure must accept in order to be sure that the information supplied to the community will be objective, regardless of the political trends prevailing in the community concerned.

A regional interdisciplinary subject-oriented institute must furthermore play a decisive role in informing, shaping and educating community opinion.

A regional subject-oriented institute cannot propose to act alone in this regard, owing to the important influence already exerted by the various media. Yet interaction between the university and community can best be achieved through regional subject-oriented institutes. Specialized monodisciplinary institutes cannot hope to have any effect in depth on the regional community : this is a specific function of interdisciplinary regional subject-oriented structures. Several efforts undertaken in various countries have been crowned with success and show that the greater the reputation of a university establishment for neutrality, objectivity and technical competence, the better its capacity for informing, shaping and educating public opinion.

As a forum for discussion, analysis and decision-making between the community and the university system, the regional subject-oriented institute can play a decisive role in solving a whole series of problems specifically applying to a community and region in some particular sector.

D. Methods

In order to carry out these different responsibilities, the regional subject-oriented institute can have recourse to a combination of methods commonly used for research, teaching and regional co-ordination purposes.

The specific nature of the objectives however suggests the need for a more precise definition of the different methods to be applied. In particular training objectives call for techniques which can integrate and interrelate the various types of training so that a group of professionals well suited to the types of services required can ultimately be obtained.

The training obligations of university structures are found at both ends of the teaching scale:

- at the beginning of training the duty of university facilities is to steer each student into the right curriculum, allowing for any compensation as to levels and the danger of any excessive hierarchisation between the professions. The various teaching methods at present used by many countries offer a broad choice of solutions, thus ensuring objectivity and fairness when students are oriented towards some particular course of education;
- during the first stage of the curriculum the student should learn the specific language and technical characteristics of the profession he will be entering.

The second key point of the training process in a regional subject-oriented institute consists in introducing the student to pratical activities and professional work. For historical reasons the university has taught students to look upon individualism as their brand image. University individualism is incompatible with the exercise of a profession in the community.

Furthermore the varying duration and intellectual requirements of the different curricula in a given professional sector clearly points to the existence of an intellectual and professional hierarchy of a sometimes questionable kind and which may even prevent proper performance in the sector of application concerned. A regional subject-oriented institute should develop all types of professional training and education on a team basis, so that the specific character of the professional expertise contributed by the various curricula in the particular sector can be correctly re-assessed. This form of introduction to professional practice may in the case of certain subjects be an absolute prerequisite for improving job performance in the particular sector.

In the pedagogical field the subject-oriented university must necessarily take responsibility for all continuing training and professional upgrading functions, the object being to ensure balanced promotion as between generations on the basis of individual performance.

In the research field, procedures for serving the objectives mentioned in the previous paragraph call for the prior development of a specific methodology. Since the technology and advances made in each specialty must interact with the information area covered by the subject and region, a constant two-way exchange between the various monodisciplinary or interdisciplinary research facilities is required.

These two forms of research (monodisciplinary research, which is usually of a fundamental nature, and interdisciplinary subject-oriented research) are variously interrelated, depending on the country.

But specialized monodisciplinary research usually receives the biggest support from university educators, who see it as guaranteeing growth of the speciality and regard the fundamental character of research as offering the best protection against despecification and for maintaining the esoteric quality of each specialization.

Conversely, interdisciplinary subject-oriented research has often been much criticized, particularly if applied to a problem which is topical in relation to time and place. On the whole few countries have been able to develop a research approach co-ordinating the specific data regarding some problem with the specific technology of a particular speciality. In the majority of specialities, it is considered that the scientific approach should proceed from the most fundamental to the most applied type of research. This procedure can seriously interfere with the organisation of research in interdisciplinary subject-oriented structures.

If a regional subject-oriented institute is to deal with the problems posed by continuous analysis of the sector of application concerned, in co-ordination with all the other community structures, a field of action has to be defined and a combination of monitoring, analytical and even implementing procedures must be developed. According to the subject and region, to a varying degree the university establishment may be involved in the performance of practical tasks on a regional scale. It is this kind of action in the field that surely requires the regional subject-oriented institute to introduce the most original techniques as compared with customary university procedures:

- participation in the planning, organisation and operation of structures to be used for observing, monitoring and analysing the regional sector of application;
- participation in the utilization of data so that the sector's permanent status can be established;
- participation in the definition of measures and actions needed for correcting anomalies or improving the operation of the sector, in line with an overall programme jointly drawn up and approved by the community and the university;
- undertaking specific tasks and activities as part of a programme approved, promoted and financed by the regional community (possibly in co-ordination with activities undertaken on other subjects or in other regions as part of inter-regional programmes).

Such responsibilities of a regional subject-oriented university structure as informing, shaping and educating community opinion (independently of specific training action) necessitate resource to a number of methods which are new to most university educators. Only a few university establishments throughout the world have prepared the ground for mass action affecting the community. In such cases one can observe adoption of special methods combining:

- the dissemination of information points,
- recourse to mass media,
- recourse to methods of stimulation (surveys, canvassing, campaigns),
- development of special teaching methods allowing for diversity of audience, topicality of subject dealt with, effects of competition due to the many stresses of working life, and the more or less conscious desire of each respondent for self-fulfilment, personal identity and socio-economic improvements.

The methods to be used require the development of special relationships between university structures, regional community authorities, and users.

E. The Structures

Undertaking the different tasks enabling a regional subject-oriented structure to carry out its responsibilities, necessarily implies the existence of structures suited to these tasks.

The post-secondary training systems of the different countries possess, in varying quantity and quality, all the structures needed for carrying out their responsibilities. The architectural design, the allocation of premises and resources, and the siting of establishments have usually been the subject of feasibility studies, leading in each country to the development of fairly specific university structures. It is therefore reasonable to assume the establishment of a regional subject-oriented university institute as first calling for studies which will define the structures mainly needed for its operation and the performance of its tasks.

its tasks.

Generally speaking, a regional subject-oriented university facility comprises at least two types of structure in line with the tasks it has to perform:

i) Co-ordination, concerted action and decision-making structures

These structures accommodate the facilities needed for co-ordination with the different bodies representing the regional community as well as with the inter-regional and national agencies. Furthermore overall structures for co-ordination within the university belong at this level. Logically, therefore, this should be the meeting place of the bodies which must constantly concert their views for reconciling the university's work and operational programme with financial constraints, in line with the orientations and plans drawn up and approved by the committees and boards responsible for defining university policy financing its activities.

At this level of co-ordination and concerted action there must of course be a central decision-making body responsible for implementing establishment policy. Depending on the country, this may be a board wholly or partly composed of elected members and including representatives from all the region's community structures (including users) and from all operational structures of the regional subject-oriented institute. In countries where the universities are under the authority of an elected president, he is selected from the university board. In countries or organisations where the president is appointed he heads the university board.

ii) Operational structures

The operational structures of a regional subject-oriented university institute are more diversified than in conventional establishments. These essentially consist of:

a) Training structures

These in turn can be diversified, according to whether initial training, recurrent training or continued training is involved.

The use of pedagogical methods strongly promoting both an interdisciplinary approach and rapid integration with the regional professional environment calls for a special type of structural plan.

b) Research structures

The prime objective of regional subject-oriented university institutes is not the maintenance and development of each speciality. While, owing to circumstances and conditions of establishment, different solutions no doubt are possible in order to guarantee a minimum amount of facilities per speciality, research amenities as a whole should be planned in the light of specific research characteristics prevailing in the university institute:

- interdisciplinary research programmes built around a subject;
- subject activities built around problems having a regional impact;
- research activities whose effects on the regional community can be evaluated in the short, medium or long term;
- characterization and development of the specific contribution which research projects can make to inter-regional scientific co-ordination.

The research structures must necessarily take over various special types of research which can only be developed by regional subject-oriented university facilities. Mention may first be made of such operational research as the continuous analysis of qualitative and quantitative needs to be met in the sector concerned as well as the effectiveness of means used to satisfy them. The responsibility of a regional subject-oriented university institute is directly involved at several levels: it is through this type of analysis that the community role of such an establishment can be justified in the short and long term.

c) Action structures

Depending on the subject, the regional subject-oriented university establishment may be involved in certain practical tasks carried out in the field. The size and special nature of these action structures depends both on the type of organisation in each country responsible for the sector concerned as w[illegible] as on the subject itself. Thus, while it seems unlikely that a regional subject-oriented institute would be directly involved in the operation of industrial establishments, it might well be made partly responsible for running health care establishments for the smooth operation of bodies providing legal aid. It is therefore in terms of each subject, region and country that the concept of an action structure can be variously defined.

Yet it should be emphasized that action structures represent a special type of interface between the university and the community. For a community to propose that a regional subject-oriented university institute be set up without giving it any direct responsibility for action in the relevant sector and region would be to deprive the structure of one of its most important means for achieving its objectives.

d) Structures for informing and educating public opinion

The tasks devolving upon these structures are among the most important and the most significant functions of a regional subject-oriented university institution. The relevant structures must be able to prepare and disseminate information, plan the organisation and execution of campaigns and surveys, launch specific training and educational projects, on the principle that the facilities required for the purpose should be spread throughout the regional sector concerned.

e) Inter-university and inter-regional co-ordination

A regional subject-oriented university establishment must necessarily be closely associated with other similar or different types of university establishment (i. e. specialized monodisciplinary university institute). An association can thus be formed between establishments in different regions dealing with the same subject, or between establishments dealing with a different subject in the same region. In any case such co-ordination is essential if the university institute's mission is fully to be carried out. The major risk run by a regional subject-oriented university institute is in fact despecification and excessive regionalization. It cannot properly carry out its task unless it has access to the whole body of scientific, technical and pedagogical information which other university establishments can provide. Co-ordination is a two-way proposition: the regional subject-oriented university establishment must afford other university establishments the benefit of its own experience and own special achievements.

The critical work which will necessarily be carried out through relationships between the regional subject-oriented university and the community should be matched by inter-university criticism, which is just as important for the development and validity of activities undertaken by the subject-oriented university.

The main errors of the present university system operating in most countries are well known and have been considered in previous documents. The regional subject-oriented university provides a way of meeting certain problems which confront the community, which the traditional university structures of most countries in fact seem incapable of adequately answering.

Yet university establishments of this type will certainly not, by themselves, be able to cover all post-secondary training and research needs. They must necessarily co-ordinate their action with university institutes of a different and complementary nature, such as the monodisciplinary specialized institutes mentioned above, and with other structures, particularly of a technological nature. By means of these different links and co-ordinating arrangements provided within the region as well as other university establishments and other regions, an interdisciplinary regional subject-oriented university establishment will have a specific role to play in any overall university organisation at national or international level.

3. The Regional Health University: the Subject

The reasons for choosing health as the theme in developing a model of a regional subject-oriented university are the advanced interdisciplinary character of the training and research systems and the co-ordination now required for proper operation of the health system on a regional scale. Furthermore in many countries post-university health training structures are already so closely connected with the provision of health care that, on a regional scale, participation by the university in the operation of facilities need not be regarded as a revolutionary innovation.

The social, economic, cultural, technical and political factors involved make the health system a key sector of several countries' socio-economic organisation. The interactions between divergent interests as well as the increasing burden of investment and recurrent costs clearly suggest the need for an attempt at rationalization, which a new type of structure along the lines of a regional subject-oriented interdisciplinary university institute would seem well able to provide.

Among the many considerations that amply justify the choice of health as the theme, at least three deserve to be singled out:

i) The organisation of preventive measures

The organisation of preventive measures in the health field requires extremely close co-ordination between all staff, whether specialized or not, who may be called upon to act at some stage of preventive procedures. In particular the institution of preventive measures against artificial morbidity and mortality associated with community development and organisation requires the use of human and material resources for undertaking types of action which are not the normal responsibility of post-university structures training for the health care professions or even bodies responsible for providing care.

The socio-economic, cultural, technical and political factors involved in the organisation of effective preventive measures alone justify use of the health theme as a unifying element for interrelating the community and regional subject-oriented university structures.

ii) Redefining and modernizing health care networks

Round-the-clock service, continuity and accessibility are three qualities that at present define a system of health care. These qualities imply that the staff and structures providing care should be capable of harmonizing their action in terms of time, space and the complexity of situations in such a way that the invalid will always be sure to receive the service befitting his condition.

In practice the majority of health systems come up against tradition, special, group or vested interests, and even hostile attitudes which greatly show the search for a more functional organisation of health care. Such factors as the increasing cost of investment in the health field, the growing complexity of diagnosis and treatment, and the close meshing of social and medical aspects in any pathological situation all point to the idea of health care networks.

It is clear that the establishment and modernization of health care networks is one of the most specific and most original tasks which a regional subject-oriented health university will have to perform.

iii) Health Information and Education

Studies undertaken in different countries in an attempt to define the criteria for meeting health care demand clearly show that it to some extent depends on whatever health care resources are provided, hence that to start with there can be no hope of satisfying a fixed level of demand. It is clearly recognized today that, since the demand changes as care facilities are increased, there is no possibility for the health system as now organised to meet the demand for care either in terms of quality or quantity. On the contrary, the psychosociological approach shows that only if users of the health care system effectively share in influencing the trend can a factor balancing the demand against the supply be introduced. A regional subject-oriented university structure in the field of health seems ideally suited for establishing associative structures that would enable users to participate in the analysis of demand and in the formulation of choices made necessary by the enduring gap between the demand and the supply. Health information and health education are two prior requisites before users can actively participate in setting guidelines that are based on a continuing analysis of demand and of the means needed to meet it.

To sum up, the choice of health as a subject is amply justified by:

- the number, significance and diversity of trained professions involved;
- the significance and complexity of the various types of specific research in the sector;
- the size and socio-economic significance of the sector of application;
- the importance of participation by all parties affected by operation of the health system; and
- the close interrelationships to be organised and developed between the community and the health training, research and care systems so as to serve the purposes of a clearly defined health policy.

4. The Regional Health University: the Region

As an original university structure with a subject-oriented as well as regional foundation, the health university must be capable of close integration with the region. The term "region" is used to designate an administrative component or unit in many countries. The only trouble is that, depending on the particular system, government or country the "region's" geographical area, sectors of activity and socio-economic groups may widely differ.

The regional concept is one often used in the health field. With a view to co-ordinating investment and the utilization of major infrastructure in the health system, most countries have tried to delimit geographical sectors within which the diminished scale of problems and of human relations make it easier to operate the system. In the case of the regional health university, the regional concept must be made to fit the way it is used and defined in the individual country, subject to the acceptance of minimal and maximal limits beyond which the regional health university may only be an establishment at the service of a non-functional micro-community, or instead be incapable of carrying out its responsibilities at all levels in the region.

In the case of a regional health university the regional concept may be approached in one of three ways:

- from the standpoint of health care structures. Here the region should include one or more of the facilities required for dealing with most pathological situations, except perhaps those which exceptionally arise;
- from a management standpoint the region should be an administrative unit with a degree of initiative and independence such that the regional health authorities can take a minimum number of decisions and steps required for the sector's smooth operation;
- from a training and research standpoint the region should be able to assume much of the responsibility for recruitment of

the pupils and students needed to launch the various training programmes, and for the entry into working life of the majority at the end of their studies.

To sum up, as a first approach, the notion of region should take account of:

- geographical and demographic characteristics: geographical aspects of the area, population density, etc. ;
- economic and cultural characteristics: whether predominantly a rural, suburban or urban population, available professional training facilities, university centres, hospital establishments, and centres of economic, commercial or industrial activity ;
- administrative characteristics: such types of regional organisation as that of health insurance and health care, of regional departments responsible for monitoring or operating the health system, that of different categories of health staff, etc.

Exemplifying these characteristics, a region may contain a small number of inhabitants (some 250,000 spread over a wide geographical area), or, conversely, a population of some 1,000,000 or 2,000,000 in relatively limited geographical areas close to or in large urban centres. Whatever the situation, however, the regional concept requires the closest possible alignment as between reasonable capacity of the university structures and the geographical and demographic dimension of the community.

5. The Regional Health University: Responsibilities and Objectives

As we have seen, the responsibilities of the regional health university necessarily come under one of the following headings:

- training,
- research,
- health information and education,
- practical action as regards the provision of health care,
- co-ordination.

a) Training responsibilities

The main task of the health University is to combine and co-ordinate all types of long and short health-training courses so that:

- institutional objectives and teaching resources can be co-ordinated among the different curricula,
- students can be better guided, according to their theoretical and practical aptitudes,
- mobility of the students can be both vertical and horizontal,
- all categories of health care personnel can be kept continuously informed,
- a common core is organised for the different curricula at varying levels, with a view to developing the common language

and meeting-ground needed for teamwork training (hospital and outside care teams).

The Health University therefore combines the following types of training:

- Traditional courses of study:
  - long:
    - medicine,
    - pharmacology,
    - dental surgery,
  - short:
    - nurses,
    - physiotherapists,
    - x-ray and laboratory technicians,
    - welfare officers.
- Associated courses of study:
  - psychologists and sociologists,
  - specialized educators,
  - health and safety,
  - biological, medical, health and hospital engineering,
  - hospital administrators and managers of social security establishments,
  - physical education teachers,
  - health management and economics,
  - ecology,
  - ethology,
  - nutrition and dietetics,
  - urban management and environment.
- Other possibilities:
  - Training for any profession involving, in varying proportions, the individual's psychological, relational, economic and social, somatic and biological dimensions, with a view to protection against sickness and restoration of health.

b) Research responsibilities

The research responsibilities of the Regional Health University cover three fields: scientific and biomedical research, pedagogic research, and socio-medical and operational public health research:

- Scientific and biomedical research programmes must necessarily be oriented along lines co-ordinated with the other medical and scientific community research structures at regional and inter-regional level. They must be adaptable to the research programmes of national bodies. A special feature of the Regional Health University is to combine a large number of disciplines around the health theme; it can therefore promote the organisation of inter-disciplinary research in the scientific and biomedical field.

- Pedagogic research must necessarily take account of the particular characteristics of each type of curriculum, links between the different types of training, and more especially the methods to be used to meet such specific objectives as team-work training, continuing training for the different professional categories, health education and information, as well as the many geographical constraints due to the fact that students in the different curricula are scattered among the regional health care structures.
- Sociomedical and public-health operational research: by continuously analysing the health situation and the operation of health care structures, an enduring task of the Regional Health University can be to formulate operational research programmes primarily meeting regional needs to be served. This type of operational research is a particular feature of the subject-oriented university. Its objective is to monitor the health operations of a region, and its permanent function is to propose the solutions best adapted to existing technology, to the resources of the regional and national authorities, and to the health policy guidelines or decisions adopted by the region or by national agencies.

From the research point of view the responsibilities of the Regional Health University are of a dual nature, since it must serve as an interface between national and international advances in knowledge, and continuously participate in the regional analysis of problems in order to single out research themes it can later deal with - either by itself or jointly - with other subject-oriented or monodisciplinary university structures at national, inter-regional or international level.

Such different types of research clearly show that the Regional Health University's action and regional function give it a special type of responsibility, and that in regard to certain research problems it has an exclusive inter-regional or international part to play. It is its research activities which can best safeguard the Regional Health University against too much or too little regionalisation.

c) Responsibilities in relation to health information and education

In this area the Regional Health University has very important responsibilities. It must steadily be able to promote a scheme for educating and informing users of the regional community's health system based on the regular provision of data concerning the system's regional operation and on the directions which the many health activities planned at regional or national level must be conducted.

For the purposes of health information and education special teaching methods, specific resources and structures must be available, and indicators and controls must be provided for later evaluation, thus enabling the effectiveness of technical campaigns for arousing the public, stimulating its awareness and encouraging its involvement to be assessed. As in the case of continuous training, the Regional Health

University must insist on user participation on an adult-to-adult basis rather than on any traditional teacher/pupil relationship.

d) Responsibilities regarding involvement in health care

In many countries the medical faculties and the training structures in other health professions are more or less directly involved in the provision of health care. In general, involvement takes place through hospital establishments, and to a lesser extent, in outside health care (health centres, dispensaries, itinerant health services, etc.).

Unlike the difficulties which other types of subject-oriented universities may meet in choosing methods of action, the tradition of participation by structures training for the health professions must be maintained and strengthened to such an extent that the Regional Health University can, whenever possible, directly share the responsibility of operating and managing the regional health care system.

It may intervene directly or indirectly, depending on the country. In any case it is at the level of co-ordination facilities that the junction will be effected between the authorities responsible for the operation of hospital or non-hospital establishments, for training, research, health information and regional co-ordination.

The inter-relationships which necessarily exist between the different operational sectors of the Regional Health University should however enable the health-care system to be under permanent analysis, and should ensure such close communication between the provision of health care, training and research that any innovation or change designed to improve operation of the health care system can be introduced whenever needed.

e) Co-ordination responsibilities

The co-ordination work of the Regional Health University is extremely important, since it is this body that should be made responsible for permanently co-ordinating the different activities of the health system, including training and research activities.

These co-ordination tasks occur at three levels:

i) Between the region and the supra-regional level

This is essential if the region is to undertake exchanges with the supra-regional structures needed for implementing policies defined at national level, as well as co-ordination between responsible national government departments or structures and the regional operational agency. Conversely, by co-ordinating the region and supra-regional structures in health matters through the Regional Health University, the responsible inter-regional or national bodies can be provided with any information, project proposals and requests required at that level.

In particular, the Regional Health University is likely to be the place where a concerted regional plan can be developed for approval and financing by national agencies.

From one country to another, co-ordination between the region and the supra-regional structures will unquestionably differ, since certain countries systematically favour regional financial, economic and even political autonomy, while others prefer that policies be nationally concerted to a greater degree, thus limiting the scope for action at regional level.

ii) Between partners in the health system

This type of co-ordination covers all categories of individuals, professionals, users, management staff, etc., directly or indirectly involved in operation of the health system. It may even include categories of regional professionals and authorities from other sectors when the interrelationships are obvious (education, culture, recreation, transport, housing, work organisation, justice, production sectors, etc.).

The minimum regional co-ordination established by the Regional Health University concerns professionals responsible for providing health care and for training, social-security and health care agencies, regional administrative bodies, representatives of the different local authorities and of the health system's users.

iii) Co-ordination between operational structures

The responsibilities of the Regional Health University include co-ordination between the different regional facilities training for the health care professions and those providing health information and education. The University must constantly check that actions undertaken by the different operational structures complement each other and are in line with the general responsibilities conferred upon it.

This non-exhaustive list of responsibilities and objectives of the Regional Health University shows that it is an original structure which cannot be superimposed on the university facilities normally found in the various countries. Experience shows however that there is no real difficulty in reaching this level of co-ordination and complementarity for activities which are to benefit the health system at regional and inter-regional level.

6. The Regional Health University: Methods to be Used

In order to achieve the different objectives assigned to a Regional Health University, it is essential, when necessary, to use methods departing from those ordinarily applied by the university and health care systems. In fulfilment of the plan followed in this paper, and with regard to the special responsibilities of the Universities, an appropriate methodology would appear to be this:

a) Training methods

The achievement of training objectives calls for the use of special teaching methods, the most important of which seem to be:

- an initial student reception and guidance facility for determining on the basis of the student's aptitudes, the curriculum best suiting his individual qualities, while taking account of regional and inter-regional needs in the various professional categories;
- a system by which the different health-training curricula are so organised as to take account of the special characteristics of each curriculum and of the need for future professionals to co-ordinate their activities with those of other professional categories coming under the health care team concept;
- the setting up among the different curricula of a separate training course introducing students to team work and to the operation of health care networks;
- procedures combining professional advancement, continuing training and sandwich courses, so as to minimize negative sociological and professional effects caused by over hierarchisation of the professions.

These particular, specific training activities of the Regional Health University will of course have to rely on the principles of recurrent training, inter-disciplinarity, sandwich courses and active teaching. Technical devices such as the dissemination of information, automated control, etc. would be used as adjuncts.

b) Research Methods

Some of the methods to be used for the three categories of research mentioned earlier must still be developed, by using special methodologies of an inter-disciplinary character, starting with applied research. In the field of scientific and biomedical research, innovation will consist in pooling the potentials of all specialities for the benefits of research themes formulated in a regional or inter-regional context.

In operational research as applied to public health, methods will be based on procedures used for monitoring the economic sector, the statistical processing of data, case studies, systems analysis and simulation. In public-health operational research, however, use will moreover be made of designing, programming and planning techniques as well as methods of cost/benefit analysis.

c) Health training and education methods

These methods must combine all facilities for providing and disseminating information, and be used in campaigns and projects for educating and mobilizing public opinion. Specialized educators, public relations specialists and investigators must act together in approaching the users of the health system at various information and education levels. Special teaching methods for adults will be used, like those developed in certain university structures in the United Kingdom and more particularly in the United States (Open University, etc.).

These methods should include monitoring and assessment procedures which will make it possible at intervals to observe how these campaigns have affected indices, criteria and indicators established as part of the permanent analytical process undertaken for the regional health sector.

d) Health action methods

Methods serving the tasks and objectives of the Regional Health University for health action will depend directly on its degree of responsibility regarding the provision of health care. The Regional Health University will however always have special responsibilities as regards the establishment and operation of health care teams required for the different care networks. Furthermore, the University will constantly have to redefine and update the different care networks as new knowledge and information is provided by the continuing analysis of regional health conditions.

One of the most important procedures that the Regional Health University will have to institute for the proper operation of health care facilities is a regional health observatory, whose task will be to analyse the care system's operation and establish the criteria for determining whether the care resources invested meet the demand adequately.

e) Co-ordination methods

Co-ordination methods will primarily be based on incentive and persuasion. Basically much will have to do with human relations, in as much as all the resources needed for the Regional Health University's exist before it is set up. The unifying role of the Regional Health University implies that each participant in co-ordinating functions be convinced that he is the gainer by helping to run the University, while preserving his own individuality and personality. Ideally, the Regional Health University should emerge as a structure to which each agency and each individual feel they have made their own special contribution.

7. The Regional Health University: Structures and Organisational Chart

As explained in Part 2 of this report, dealing with the theoretical model of a regional interdisciplinary subject-oriented university, the Regional Health University must have two types of structure which complement each other and differ in their objectives:

i) Co-ordination structures which continuously analyse information, define objectives, actions and resources and which utilize the results. From these structures come those responsible for decision-making and concerting action, whereby university policy can be defined, resources for its implementation be obtained, and tasks assigned to the operational structures be adequately carried out.

ii) Operational structures for dealing with research, basic training, continuous training, health education and information, and for providing health care.

Figure 1 suggests a co-ordinating model for these structures.

Figure 1

REGIONAL INTERDISCIPLINARY SUBJECT-ORIENTED UNIVERSITY

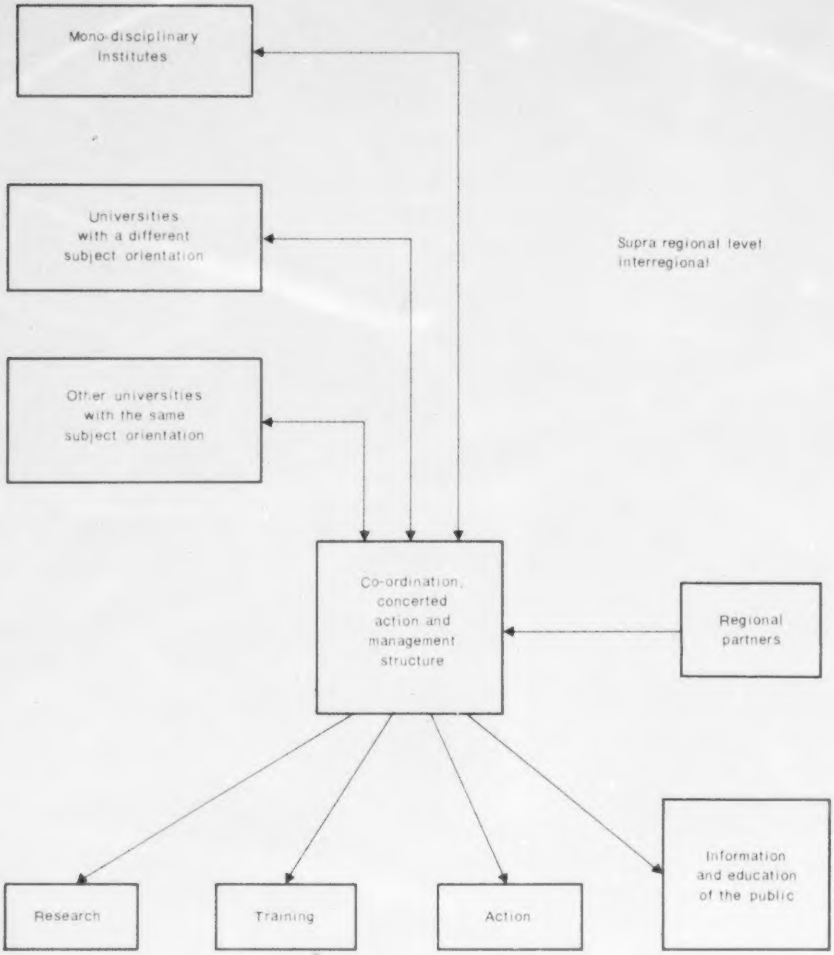

Mono-disciplinary institutes
Universities with a different subject orientation
Supra regional level interregional
Other universities with the same subject orientation
Co-ordination, concerted action and management structure
Regional partners
Research
Training
Action
Information and education of the public

Figure 2

SECTORS AND TYPES OF PROFESSIONAL TRAINING AFFECTED BY THE HEALTH UNIVERSITY

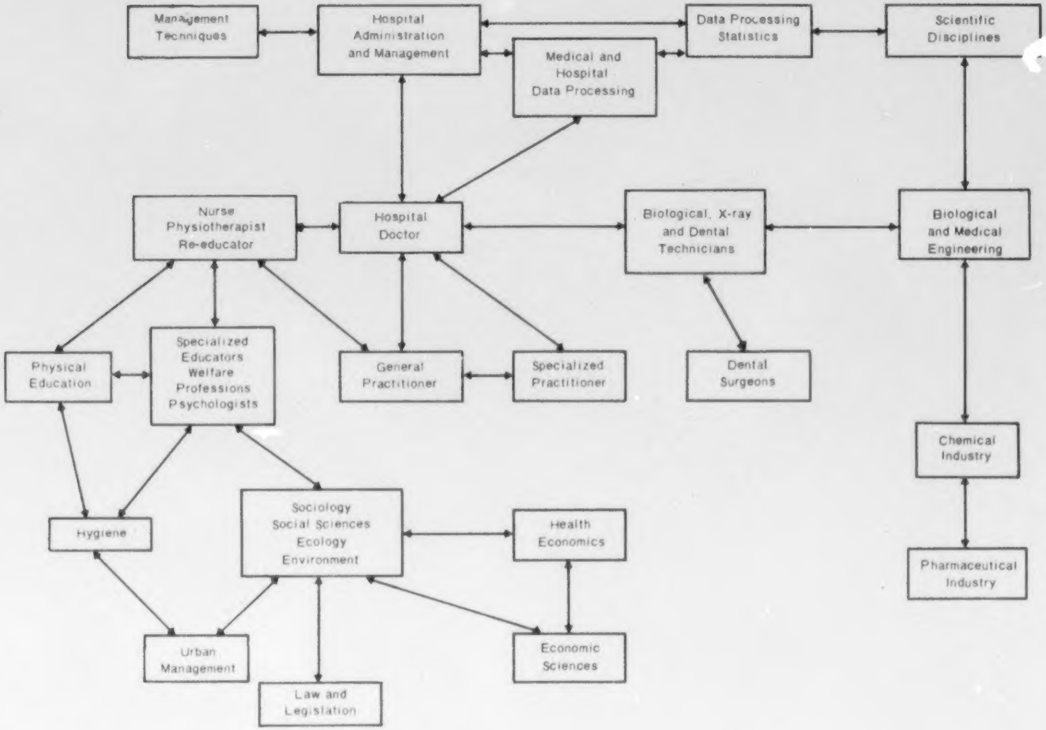

Management Techniques
Hospital Administration and Management
Data Processing Statistics
Scientific Disciplines
Medical and Hospital Data Processing
Nurse Physiotherapist Re-educator
Hospital Doctor
Biological, X-ray and Dental Technicians
Biological and Medical Engineering
Physical Education
Specialized Educators Welfare Professions Psychologists
General Practitioner
Specialized Practitioner
Dental Surgeons
Chemical Industry
Hygiene
Sociology Social Sciences Ecology Environment
Health Economics
Pharmaceutical Industry
Urban Management
Law and Legislation
Economic Sciences

Figure 3

THE REGIONAL HEALTH UNIVERSITY

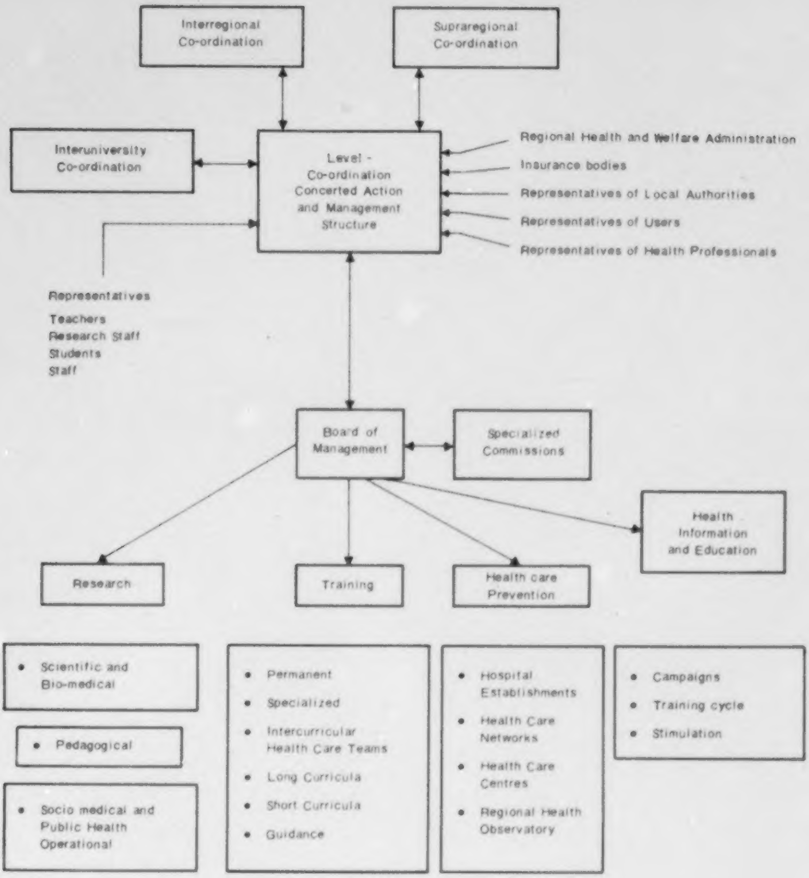
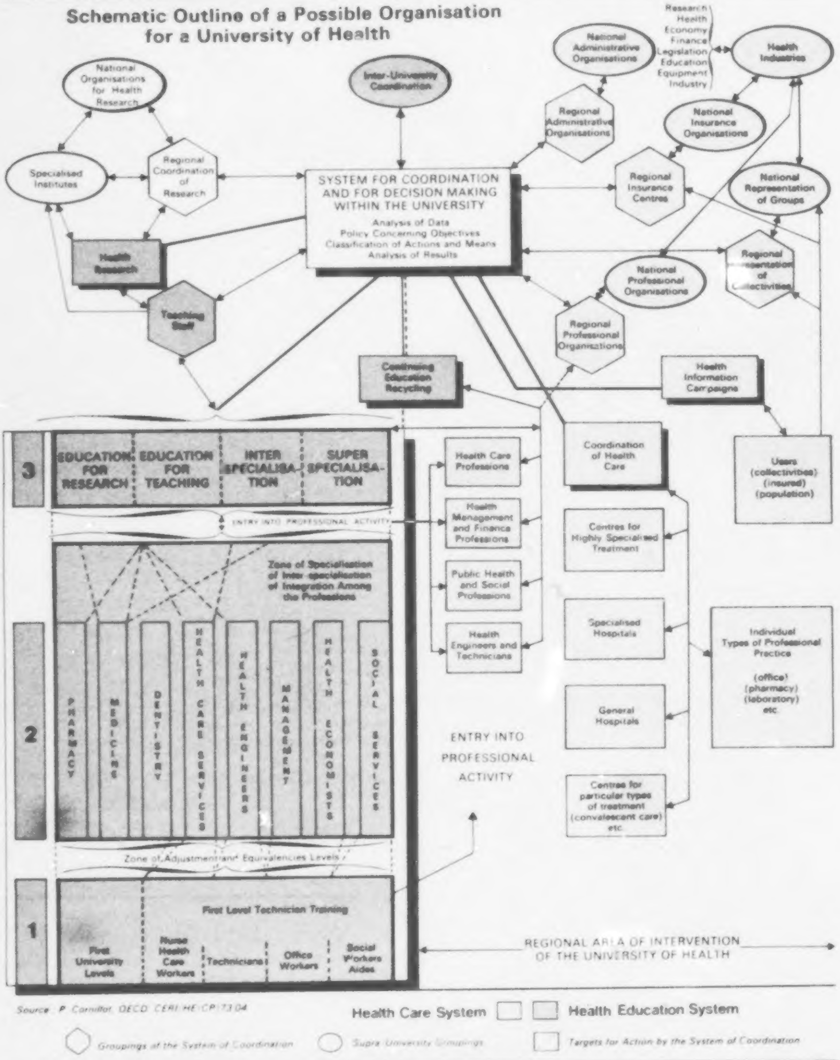

Interregional Co-ordination
Supraregional Co-ordination
Interuniversity Co-ordination
Level - Co-ordination Concerted Action and Management Structure
Regional Health and Welfare Administration
Insurance bodies
Representatives of Local Authorities
Representatives of Users
Representatives of Health Professionals
Representatives
Teachers
Research Staff
Students
Staff
Board of Management
Specialized Commissions
Health Information and Education
Research
Training
Health care Prevention
• Scientific and Bio-medical
• Pedagogical
• Socio medical and Public Health Operational
• Permanent
• Specialized
• Intercurricular Health Care Teams
• Long Curricula
• Short Curricula
• Guidance
• Hospital Establishments
• Health Care Networks
• Health Care Centres
• Regional Health Observatory
• Campaigns
• Training cycle
• Stimulation

Figure 4

Schematic Outline of a Possible Organisation for a University of Health


National Organisations for Health Research
Inter-University Coordination
Specialised Institutes
Regional Coordination of Research
SYSTEM FOR COORDINATION AND FOR DECISION MAKING WITHIN THE UNIVERSITY
Analysis of Data
Policy Concerning Objectives
Classification of Actions and Means
Analysis of Results
Health Research
Teaching Staff
Continuing Education Recycling
National Administrative Organisations
Regional Administrative Organisations
Research
Health
Economy
Finance
Legislation
Education
Equipment
Industry
Health Industries
National Insurance Organisations
Regional Insurance Centres
National Representation of Groups
Regional Representation of Collectivities
National Professional Organisations
Regional Professional Organisations
Health Information Campaigns
Coordination of Health Care
Users (collectivities) (insured) (population)
3
EDUCATION FOR RESEARCH
EDUCATION FOR TEACHING
INTER SPECIALISATION
SUPER SPECIALISATION
ENTRY INTO PROFESSIONAL ACTIVITY
Zone of Specialisation of Inter-specialisation of Integration Among the Professions
2
PHARMACY
MEDICINE
DENTISTRY
HEALTH CARE SERVICES
HEALTH ENGINEERS
MANAGEMENT
HEALTH ECONOMISTS
SOCIAL SERVICES
Zone of Adjustment and Equivalencies Levels
1
First Level Technician Training
First University Levels
Nurse Health Care Workers
Technicians
Office Workers
Social Workers Aides
Health Care Professions
Health Management and Finance Professions
Public Health and Social Professions
Health Engineers and Technicians
ENTRY INTO PROFESSIONAL ACTIVITY
Centres for Highly Specialised Treatment
Specialised Hospitals
General Hospitals
Centres for particular types of treatment (convalescent care) etc.
Individual Types of Professional Practice (office) (pharmacy) (laboratory) etc.
REGIONAL AREA OF INTERVENTION OF THE UNIVERSITY OF HEALTH
Health Care System
Health Education System
Groupings of the System of Coordination
Supra University Groupings
Targets for Action by the System of Coordination

Source: P. Cornillot, OECD, CERI/HE/CP/73.04

Part Four

TEN EXPERIMENTS ON EDUCATION OF THE HEALTH PROFESSIONS IN THE CONTEXT OF REGIONAL HEALTH CARE

I

INTRODUCTORY ANALYSIS

This analysis, by Rosalind Michahelles, uses the information found in the questionnaire filled out by each of the ten institutions listed below and, in summarizing the trends, gives examples. It is not, therefore, comprehensive. Full details for each institution are given in the case studies in the following chapter.

PARTICIPATING INSTITUTIONS

The Faculty of Health Sciences, McMaster University, Canada.

The University of Kuopio, Finland.

The Experimental Unit of Teaching and Research in Medicine and Human Biology, Bobigny, University of Paris XIII, France.

The University Centre for Health Sciences in the Negev, the Ben Gurion University of the Negev, Israel.

The Faculty of Medicine at Maastricht, State University of Limburg, The Netherlands.

The School of Medicine at Tromsø, University of Tromsø, Norway.

The University of Hacettepe, Turkey.

The University of Southampton Medical School, United Kingdom.

The Health Sciences Center at Stony Brook, State University of New York at Stony Brook, United States.

The University of Cincinnati Medical Center, University of Cincinnati, United States.

Despite their evident diversity in location, size, history, age, organisation and in the culture and wealth of their clientele, these ten experiments all belong to the same trend. They all share two basic and significant characteristics. In the most general terms these characteristics are: interprofessional and interdisciplinary opportunities in health education, and integration with the regional health care system. How this happens varies in each situation according to the needs and possibilities and according to the health care and health education systems which differ fundamentally from country to country. The methods used are not necessarily exclusive to these ten experiments, any more than this trend is limited to them. They are examples, harbingers of a new direction. What is particularly significant is that all ten do share both these basic characteristics and, furthermore, that these characteristics are explicit in the "Main Objectives" published by each one. In other words, this is not patchwork innovation. On the contrary, it represents institutional commitment towards a specific direction in health and health care.

None of the ten experiments, however, exactly fits the conceptual models described in the papers of Dr. Pellegrino and Dr. Cornillot. As each experiment varies from the others, each varies in the degree and way it satisfies the criteria set up by these two experts.

The geographical location of these experiments runs the gamut from Northern Norway to Southern Israel and the Mid-West of the United States, including rural, urban and suburban settings. As they vary in location, they also vary in size from 34 students in the first year of the University Centre for Health Sciences in the Negev to 8,038 students (some of whom were not, however, only in the health fields) at the University of Hacettepe. 1,000 is more typical.

Most of the experiments belong to entirely new institutions... the University of Kuopio 1966, the University of Paris Nord 1970, the University of the Negev 1969, the State University of Limburg 1974, the University of Tromsø 1972 and the State University of New York at Stony Brook 1962. The University of Hacettepe, though founded in 1206, was chartered in its new location in 1967. Three only belong to the older institutions... McMaster University 1887, the University of Southampton 1902 (as a university college) and the University of Cincinnati 1870. These are particularly significant in that they demonstrate the feasibility of this trend for established universities where innovation is usually harder to effect. Likewise the structural arrangements of these experiments vary. Most of them are units (schools, faculties, centres) within a larger university. Three, however, are themselves entire universities: Kuopio, Hacettepe (which is mainly devoted to health) and Limburg (which will eventually expand). The variety of the experiments is important because it shows the universal potential of this trend in health care and health education.

All ten experiments are committed to breaking down the old barriers in education between the professions. Administratively they therefore all involve more than one "department", "school", or "faculty". Typically this means medicine and one or more of the other health professions such as nursing, dentistry, pharmacy, behavioural sciences, psychology, gerontology, public health, environmental hygiene, health administration or health economics. Interprofessional learning can happen when students of different professions study together or when students study a given topic from the point of view of different professions. With this distinction in mind it is easy to see that shared courses or cross-registration is a first step towards the more complex methods of common core programmes and team learning.

These experiments offer students courses that do not necessarily separate them by future profession. Depending on the structure of the institution it happens more or less often for future doctors to find themselves in classes with future nurses or pharmacists. One of the most thorough examples of this method of interprofessional teaching is the University of Hacettepe, where students from the various schools and faculties study together taking biology or anatomy or pharmacology or whatever according to their own individual needs. Permanent committees such as "the cellular and tissue injury committee" and "the community medicine committee" help insure interdisciplinarity. The latter, for instance, considers: human ecology, personality development, the clinical sciences and socio-psychiatric medicine. The Medical Faculty of the University of Southampton Medical School handles interdisciplinarity* organisation differently. Faculty members are grouped according to three main functions: teaching, clinical service and research.

Common core, a further development, means that students destined for whatever health profession take the same basic courses for a year or two or three depending on the programme. Towards the end of such a programme guidance or tests help the students select their next steps. Adapting such a common core is a radical change from the traditional structure of education for the health professions. None of the ten experiments offers a pure example of a common core programme and some of them even admit formidable obstacles to achieving this goal; but for most of them it is a goal more or less distinct. At Kuopio University, where the natural sciences form the common core for most students, the aim is to eliminate barriers between closely related branches of science. At the Health Sciences Centre of the Negev a broad initial core is envisaged for all students in part to help them in their eventual choice of career. The Health Sciences Center at Stony Brook has a modified system which still, however, preserves distinctions between professions and nursing and another for medicine and dentistry.

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* Interdisciplinary, rather than interprofessional because it is within one school.

With the firm and pervasive establishment of a common core programme, horizontal mobility as well as vertical mobility become much more easily possible for students. The option to move "sideways", transferring into preparation for a different profession, in otherwise extremely limited, and especially limited between long cycle (e. g. medicine, dentistry) and short cycle (e. g. nursing, physiotherapy) programmes. Progress towards this goal is minimal among the ten experiments and is by and large limited to proposals for the future, more open-minded admissions policies and in some cases more relaxed transfer policies. For example, mature students without a university education are sometimes accepted at the Medical School of McMaster University and nurses applying to the Medical School at Tromsø are given additional points, which do not, however, in any way diminish their 6 year programme in medicine. At the UER Bobigny a radical change is planned, but not yet implemented, to insure horizontal and vertical mobility. Students are to study in one of the three main sections which correspond to biological man, social man, and psychological man. According to their proven abilities and their own desires they can continue a transfer to another section or terminate with a short cycle diploma.

Team work is another method for breaking down interprofessional barriers. At the University of Tromsø, for example, students work together in clinical settings to form multi-professional teams. Some resistance comes from the medical students, presumably out of snobbery, which shows exactly why team education is needed. Success among the experiments in developing multi-disciplinary teams of students in clinical settings has varied and some frankly admit that the going is rough.

The second basic characteristic shared by all ten experiments is the integration of the health education system with the regional health care system. This integration must work to the benefit of both. The regional health care system offers clinical settings for university students, practising professionals as additional faculty, and access to the community for information needed in educational policy making; whereas the university offers the regional health care system skilled manpower, its research capabilities and continuing education opportunities for local practitioners. The relative strength of the university vis-à-vis the administration of local or regional health care differs, naturally, according to the situation in different countries. It is usually a political issue which involves policy decisions at top levels of either national or regional government or both.

All ten experiments are integrated to some considerable degree with their regional health care systems. The seven most common ways are:

i) through clinical settings for students - in addition to the university hospitals,
ii) through local professionals as faculty,
iii) through continuing education opportunities for local professionals,
iv) through health education for the population at large,
v) through research into local health needs,
vi) through linkage with other health education complexes, and
vii) through administrative ties between the health education system and the regional health care system. Not all ten experiments use all seven methods, but all use most of them.

Normally medical schools have their own teaching hospitals. Sometimes they work with local health care facilities as well. In the case of these ten experiments, the work with regional hospitals and other health centres is part of their concerted effort to expand the traditional university responsibilities beyond teaching and research to include integration with the regional health care system. The Health Sciences Center at Stony Brook, which is waiting for its university hospital to be finished, has affiliation contracts with 74 institutions including 34 hospitals, five nursing homes and several rehabilitation centres. Medical students in the third and fourth years spend more time in the health agencies that serve the Long Island population than they do within what is usually defined at "the university". The academic health centre is thus virtually a regional network of institutions. The Faculty of Medicine at Maastricht, also now without a university hospital, uses six regional hospitals.

Several of the experiments stress the importance of local clinical experience by introducing it very early. At Tromsø it is even an admissions requirement to have worked six weeks in some kind of health care facility. At the UER Bobigny first year students can take a menial paid job for one month in a hospital. At Southampton first year students make five house calls under the supervision of the family doctor to patients with chronic physical or mental illnesses. At Hacettepe second year students are each assigned to a family with a pregnant woman or an infant. The student is naturally under the charge of the family doctor, from whom he gains more responsibility during the year as his growing ability warrants.

Using local professionals as additional faculty (either paid or unpaid) is a logical extension of using local health facilities for clinical field work or teaching. At the University of Kuopio local health care personnel are offered seminars to train them for teaching. In the Faculty of Health Sciences at McMaster University family physicians volunteer to teach undergraduates as well as post-graduate students in family medicine. The Health Sciences Center at Stony Brook has granted unsalaried faculty appointments to several hundred physicians, dentists, nurses, social workers and members of various allied health professions. This arrangement has advantages and drawbacks. Professionals get teaching experience and faculty rank without cost to the university. Being unpaid, however, they do not feel as responsible about their commitments as paid faculty do and for that the students suffer.

Offering continuing education opportunities for local professionals gives a good indication to a university what the community needs. When the professionals recognize what they lack, they will come to the local university for training in that area. Continuing education is therefore included here among the programmes of these experiments. The general practitioners in Paris, for example, can take further training at the UER Bobigny 3rd cycle Department of General Medicine and simultaneously participate actively in the training of future GPs. The Faculty of Medicine at Tromsø offers an interesting opportunity: a one-year course in basic medicine for professionals working on the periphery of health services. In the University of Cincinnati Medical Center the Department of Biomedical Communications offers professionals 10-15 hours of television a week over a closed circuit reaching 19 local hospitals. At the Ben Gurion University Health Centre general practitioners and other doctors can take one month a year of in-service training at full salary as part of a continuing education rotation scheme. They can go either to a hospital or to the university for their 30 days.

It is perhaps obvious to say that the prevention of illness is an important aspect of health care. But though it may be obvious it is all too often neglected or given short shrift by the health care system, the emphasis being usually on curing illness rather than on maintaining good health. Certain preventive steps, like various routine check-ups or self-examinations, are virtually universal in their applicability. Others vary in their usefullness from place to place because certain diseases prevail in particular areas on account of diet, climate, industry or for unknown reasons. So a part of prevention is research into local needs and conditions.

Research into local needs is thus at the very core of integrating health education and health care systems. The research of universities, however, has traditionally been scientific rather than social. The broadening of the field of inquiry is illustrated by some studies done recently by the Faculty of Health Sciences at McMaster University, which include "The Role and Value of the Nurse Practitioner" and "The Economic Impact of Group Practice in Primary Care Versus Solo Practice". At the Ben Gurion University of the Negev interfaculty research is applied to already defined economic and social problems of its region, which problems of course include aspects of ill-health and health care delivery. Research into local needs, in the form of manpower analysis, determined the variety and size of the six schools that comprise the Health Sciences Center at Stony Brook.

The University of Cincinnati is active in research collaborating with other local agencies and usually using grants from the federal government in Washington. Such programmes range from molecular biology (e. g. sickle cell hemoglobin) to social policy (e. g. health policy development at the local and regional levels). In occupational health the University Medical Center provides consulting services to local industry in order to improve work environments and reduce hazards, for instance in the lives of the coal miners. This example is especially significant because it combines research into local needs with the university's ability to exert influence on regional health conditions and can lead to specific preventive education, all of which taken together bear substantially on the lives and health of the community.

Educating the local population in prevention of illness is an obvious public service for a university with a community bent. Information must be collected and disseminated via mass media or through health centres or health teams The UER Bobigny has elaborate installations for the production and dissemination of television programmes. The University of Kuopio uses mass media for informing the population of North Carelia County about healthy life and the common symptoms of cardio-vascular diseases which are prevalent there. This is part of a comprehensive diagnostic and preventive project for that region.

Linking up with other health education complexes, another tactic for integration is only an issue in regions where there are other institutions, which is usually areas which have been populous and developed for a long time like Paris, Southern Ontario or Cincinnati. The Faculty of Health Services at McMaster University has joint non-degree programmes with a community college in physiotherapy and occupational therapy among other areas. The University of Cincinnati Medical Center has entered into a consortium arrangement with ten other universities and colleges in which the most highly developed programme is in health services administration.

Administrative ties between the health education and health care systems are essential for bringing university influence to bear on regional health care policy. Such ties are probably fruitfully established more easily when the systems are new and when national policies are favourable and supportive. Seeing this as an obvious advantage to both education and health care, the authorities in Israel and Turkey constructed administrations accordingly in the case of Ben Gurion University in the Negev and of the University of Hecettepe in Ankara. The University Centre for Health Sciences in the Negev is the joint endeavour of the Ben Gurion University and the Kupat Holim Health Care System. The Ministry of Health joined later, making the arrangement tripartite. Administrative ties between health education and health care are thus very strong. In Turkey all the medical services for Etimesgut and Cubuk, two rural health districts are provided and run by the Hacettepe University as an experimental scheme. This arrangement also means strong administrative ties.

In Southampton where the systems are already entrenched, administrative ties must be forged anew. Several ways in which integration between the health care and education systems is fostered include: cross-representation on all principal committees; a joint liaison committee for matters of common interest; and melding a single medical library and teaching media service for the area. Similarly southern Limburg needed a structure for co-ordinating existing health care facilities with the university' activities. The Regional Medical Centre, an interim executive body, will represent the health care side and work jointly with the Faculty of Medicine.

The problems mentioned by these experimental programmes in describing their situations vary greatly. Some have felt the economic squeeze of the last few years; some suffer from problems with government bureaucracies or bureaucratic health delivery systems; and one is short on qualified teachers in some fields. In terms of the attitudes of those involved, each situation is also different. Some find most support from the administration while others are hampered by its conservative element. Some have faculty who are eager, others faculty who are traditional, either because of perceived self-interest or because of fears for professional standards. In most cases the students are zealous, but some have found them snobbish towards students of other professions; or snubbed by their peers elsewhere for being in an experimental programme, or suffering from being the first class in a new institution, or impatient about the inevitable difficulties arising in innovative programmes. On the whole the local populations are described as either enthusiastic or unaware of any change.

Though not minimal, these problems do not stop the experiments from moving ahead in their declared direction which is to improve both health education and health care by offering interprofessional education and integrating it with health care in their region.

II

CASE STUDIES

In order to highlight and compare the main features of these ten experimental institutions which are developing along the lines of a regional health university, the Secretariat prepared a questionnaire with the following main headings:

I. Main Objectives of the experiment.

II. The Education system of the experiment (Institutional Structure, Co-ordination of the Education system, Common theory courses, Practical training, Transition from short cycles of Health Education to long cycles, Continuing Education for health professional personnel).

III. The Health care system of the "region" served by the experiment. (Brief description of the national Health Care System, Regional data, Data concerning the "regional" health care system, Co-ordination of the "regional" health care system, Use of "regional" health care centres as education centres and the role of "regional" practioners as teachers".)

IV. Integration of the health Education and health care systems. (Administrative structure in the integration of the systems, Participation of the experiment in the analysis of the needs of health personnel in the analysis of the needs of the health care infrastructure in a policy of prevention and health education, Research policy of the experiment.)

V. Implementation of the experiment: Difficulties and resistances. (Economics and financial aspects, Psycho-sociological aspects: changes in attitude, Institutional aspects).

THE FACULTY OF HEALTH SCIENCES
AT McMASTER UNIVERSITY
CANADA

Dean: J. F. Mustard

PARTICULARS OF PARENT UNIVERSITY

Name : McMaster University

Date of creation : established in Toronto 1887 moved to Hamilton 1930

Number of students : 10,000 full-time: 10,000 part-time

Number of teachers : 800 full-time: 300 part-time

Institutional structure:

1. Faculty of Business
2. Faculty of Humanities
3. Faculty of Social Science
4. Faculty of Science
5. Faculty of Engineering
6. Faculty of Health Sciences.

I. Main Objectives of the Experiment

1. To develop new approaches for the education of health personnel in association with the provision of better health services in the community. As the delivery of health care is a team responsibility shared by various different types of personnel they should be trained together in shared faculties.

2. To provide early and varied clinical experience for students in the town community. This will enable students to assess their professional activity in relation to patient care, health care delivery and medical research.

3. To organise an integrated programme of self-directed learning.

II. The Education System of the Experiment

Date of creation : *1965 Division of Health Sciences (changed to Faculty of Health Sciences in July 1973)

Number of students : 984 full-time; 11 part-time

Number of teachers : 581 full and part-time members.

1. Institutional Structure

i) School of Nursing

Date of creation : 1942

Number of students :
a) undergraduate : 268
b) master of Health Sciences Programme : 25
c) primary care and nurse practitioners : 25

Number of teachers : (faculty) 29 full-time; 8 part-time

Duration of studies : 4 years programme (Undergraduate Nursing)

ii) School of Medicine

Date of creation : 1965 (first students 1969)

Number of students :
a) undergraduate : 261
b) graduate : 74
c) postgraduate : 338
d) post-professional : 215

Number of teachers : (faculty) 316 full-time, 265 part-time } as of Oct. 1st, 1975

Duration of studies : 3 years (each academic year covers 11 months) (Undergraduate Medicine).

2. Co-ordination of the Education System

The Education Programmes in the Faculty of Health Sciences at McMaster include:

- undergraduate medicine,
- undergraduate nursing
- postgraduate medicine,
- graduate programmes: i) Medical sciences
  ii) Master of Health Sciences

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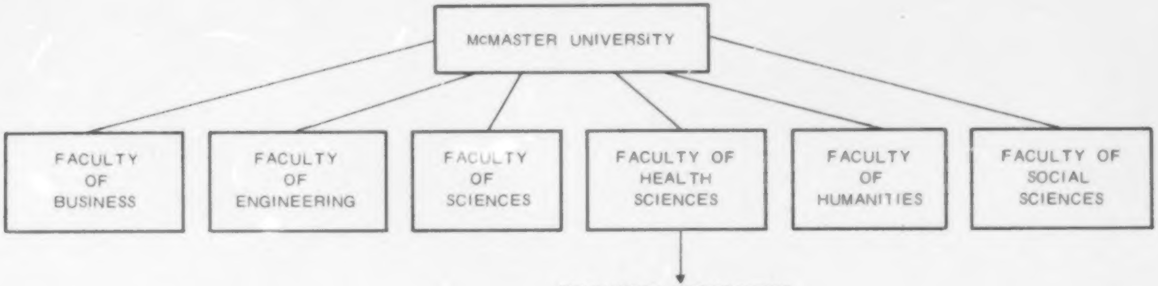
* McMaster had a school of Nursing from 1946. With the establishment of a Faculty of Medicine in 1965 a Division of Health Sciences was created in keeping with the other University Divisions in Engineering and Sciences and the Humanities and Social Sciences.

Table 1

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE OF THE FACULTY OF HEALTH SCIENCES McMASTER UNIVERSITY


McMASTER UNIVERSITY
FACULTY OF BUSINESS
FACULTY OF ENGINEERING
FACULTY OF SCIENCES
FACULTY OF HEALTH SCIENCES
FACULTY OF HUMANITIES
FACULTY OF SOCIAL SCIENCES

EDUCATION PROGRAMMES

(a) Undergraduate Medicine
(b) Undergraduate Nursing
(c) Postgraduate Medicine
(d) Graduate Programmes
    (i) Medical Sciences
    (ii) Master of Health Sciences
(e) Post Professional
    (i) Nurse Practitioner
    (ii) Clinical Behavioural Sciences
(f) Joint Programmes with :
Mohawk College (Community College - Non-Degree)
    (i) Physiotherapy
    (ii) Occupational Therapy
    (iii) Radiography
    (iv) Laboratory Technologist

- post-professional: i) Nurse practitioner
  ii) Clinical Behavioural Sciences
- joint programmes with Mohawk College (Community College Non-Degree) which include: Physiotherapy, Occupational Therapy, Radiographers, Laboratory Technologists.

Each Education Programme has to be approved by the Faculty of Health Sciences Executive and its Council in terms of the scope and quality of the programme. The programme is then established by the Faculty and a Co-ordinator of the Education Programme is appointed. This individual sits on the Faculty Education Committee which is chaired by the Associate Dean. The Associate Dean is responsible to the Faculty Council for the operation of this and other programmes. Each of the Department Chairmen is a member of the Faculty Executive and is responsible for ensuring that the resources of his/her department (Faculty Members) are appropriately assigned to the education programmes and that the Faculty members work within the objectives which have been approved by the Faculty Executive. This is essentially a form of matrix management. The Faculty Executive has the responsibility to approve and to monitor all education programmes and has the authority to remove any programme director who is perceived to be inadequate.

Thus, we have been able to establish a co-ordination for such education programmes.

3. Common Theory Courses - Common Core

A balance between the natural and social sciences is taught to all undergraduate health sciences students.

Tutorial system: there is no focus on core content but on the study of sets of problems which, when they are completed, cover the broad spectrum of human health problems. The student has access to a wide variety of learning resources including books, audio-visual materials and programmed patients. Also certain faculty are designated as resource persons for each period in the education programme. This approach makes the students responsible for self-directed learning. There are no traditional laboratory exercises. We are attempting to achieve more integration of postgraduate education and have created academic studies units which are common for a number of postgraduate programmes.

While we do not believe that there are common courses for most parts of the undergraduate programmes, we do believe that there are areas of common experience in terms of provision of clinical services in which team work is an important factor. In such circumstances, we try to arrange for joint education of students. There is more coordination of training experience for students in the post-professional programmes particularly in the Nurse Practitioner programme and in the Clinical Behavioral Sciences Programme. The same holds true for the Master of Health Sciences - Health Care Practice Programme.

4. Practical Training

i) Early Clinical Experience

- in teaching hospitals or community practices,
- in other community settings.

The Education Programme is set up so the students are exposed to Health Problems in the Community, Primary Care and Secondary Care.

The students spend 1/8th of their clinical clerkship based in Family Practice Units either full-time University or based with a Community Physician. In the Community Physicians Programme they are involved as soon as they enrol in the Undergraduate Medical Programme. The final year nursing students are also given a considerable amount of education and clinical experience in community-based practices. Occasionally, these are practices which handle both medical and nursing students.

The Community Physicians Programme is an example of an elective experience in the MD Undergraduate Programme where students spend one afternoon a week or every two weeks with a practising physician in the community. The setting is the office setting, although frequently the student accompanies the physician to make ward rounds, to visit various community health agencies, etc.

Students acquire clinical experience in the following spheres: history taking, physical examinations, interviews, diagnosis and management of medical problems encountered by family physicians.

In this way the student develops an understanding of the primary health care delivery system involving health and social systems from the vantage position of a doctor's office. He also has some insight into the business aspects of running a doctor's office as well as noting the nature of the doctor-patient relationship and understanding the basics of continuity of care concepts.

Early Community clinical experience helps the students to understand the Family Physician's role in the community.

Clinical Experience in Remote Area: In an attempt to see if it would be possible to establish a clinical experience for undergraduate and postgraduate Health sciences students in remote areas, we established with the Physicians in Northwestern Ontario a Northern Ontario Medical Programme in 1972 1,200 miles from Hamilton. We have assigned postgraduate students in family medicine and undergraduate students interested in family medicine and primary care to electives or actual training experiences in these communities. The programme is run by the physicians in Northwestern Ontario with guidelines and objectives set by the education committee at McMaster University. The objectives of the programme are:

- to allow undergraduate and postgraduate students to gain experience in remote practice settings;
- to allow our postgraduate students interested in practising these areas to ascertain what their educational shortcoming are;
- to see if placing students in remote practices has any impact on continuing education;
- to sec if a positive effect on physician distribution in these areas can be achieved by physicians taking part in the education programmes, the involvement of the communities with the Medical School and allowing students from both undergraduate and postgraduate years to see what these communities are like.

ii) Team Work in Clinical Experience

We have been unable to achieve much basis for interprofessional teamwork at the undergraduate level. This is only achieved in settings (usually district) in which actual teamwork in the provision of health services occur. This is usually in the psychiatric units or the primary care units with family physicians and nurse practitioners.

There is more teamwork in the post professional programmes (nurse practitioners and clinical behavioural sciences).

5. Transition from Short Cycles of Health Education to Long Cycles (horizontal and vertical mobility)

All students must have had at least three years' university training prior to beginning the Undergraduate MD Programme. Students come from a wide range of backgrounds (sociology, psychology, biological sciences, physical sciences, mathematics, English, engineering). We have recently made it possible for mature students without a university education to enter medical school. Links with Mohawk Community College enable students from its Faculty of Health sciences, diploma programme (laboratory technicians, nurses, physiotherapists and radiologists) to proceed into the Master of Health Sciences programme at the University. The students entering the undergraduate nursing programme can do so directly from high school.

We are trying to make it possible for vertical and lateral mobility of students in this Education structure. For example, we have recently made it possible for students without a university background to be admitted to the medical programme providing they have evidence of maturity and accomplishment. We have created the Master of Health Sciences Programme which is open to students from all health professional programmes regardless of whether or not they have a university degree. Thus students from the community college diploma course programmes, if they have the necessary ability and maturity, are eligible to take this course, without serving a university degree. In the case of the Nurse Practitioner Programme, nurses entering this programme do not require a university degree.

Thus far we have found it possible to establish programmes which provide for vertical and lateral ability of students but we are not certain at this stage how extensively this arrangement will be used by the students nor of its effectiveness.

6. Continuing Education for Health Professional Personnel

At the postgraduate level there is an integrated programme for the training of Nurse Practitioners in primary care as well as a Master of Health Sciences Programme for the education of health professionals with special functions in the health care system. Postgraduate training programmes have been initiated under University direction at the Hamilton Civic Hospitals, Hamilton Health Association, Hamilton Psychiatric Hospital and St. Joseph's Hospital in accord with a regional plan to co-ordinate the development of specialized health services in the Hamilton and District Hospitals. Postgraduate training programmes in specialty areas of anaesthesia, family medicine, surgery etc. are planned and carried out under the auspices of the Faculty of Health Sciences and range from 3-4 years in length. A post-professional diploma programme in Clinical Behavioural Sciences has been established under the direction of the Department of Psychiatry to provide an interdisciplinary approach to health care delivery and in the development of clinical skills for personnel in health related professions.

In addition, the Faculty has a Continuing Education Programme for physicians and nurses. These are held at the University centre and throughout various institutions in our region. Furthermore, the placement of students on electives or in the various community centres also has a major impact on continuing education.

III. The Health Care System of the "Region" Served by the Experiment

1. Brief Description of the National/State Health Care System

Canada has established publicly funded health care systems. There is a joint federal/provincial arrangement which provides for complete coverage for hospital care and physicians services. Although the physicians care component is theoretically an insurance programme, more than 75% of the cost is borne from the federal/provincial taxes. Despite the fact that it is a centrally funded health care system at the provincial level each of the institutions still in theory retains its own autonomy with its own Board of Governors. The physicians bill the Ontario Health Insurance Plan for the services rendered to the patients in the same way that they would bill a private insurance agent.

2. Regional Data

i) Geographical: The university of McMaster is situated in the town of Hamilton, Ontario, Canada.

ii) Demographic: Population served by the Faculty of Health Sciences at McMaster University is 500,000 in the immediate vicinity with a referral population of about 1,200,000.

iii) Socio-economic and Political: The area involved is urban and suburban including a mixture of all social classes and professions. In addition, our programme with North-Western Ontario (NOMP programme) allows us to ensure that our students are exposed to the political and socio-economics of a remote region.

3. Data concerning the "Regional" Health care system

i) Number of University teaching hospitals

One teaching hospital with 418 beds and extensive ambulatory clinics for primary and specialized aspects of patient care. However, the Hospital (called the Medical Centre) is considered to be part of the Hamilton district and is therefore operated as one of the service units in Hamilton and is subject to the same regional planning concepts.

ii) Number of public or private hospitals, clinics, health care centres (non university)

Hamilton Civic Hospitals
Hamilton General Hospital - 503 beds
Henderson General Hospital - 547
Hamilton Psychiatric Hospital
St. Joseph's Hospital - 601
Chedoke Hospitals - 187

Affiliation with Community Hospitals in Region for Limited Clinical Education: It should be noted as previously described that all of these institutions are part of the Health Council in terms of the planning and operation of health services on a district basis and this requires a close relationship between the academic and health services programmes. For example, the Department of Pathology is part of the Laboratory Medicine Programme which involves Hematology, Microbiology, Clinical Chemistry, Anatomical Pathology. Each of the four programmes has a Co-ordinator responsible to the Chairman of the Department and the Chairman of the Lab Medicine Programme. Thus, for example there is one haemoglobin value for the whole community and attempts are made to avoid unnecessary duplication of specialized services such as special coagulation units.

4. Co-ordination of the "Regional" Health care system

i) Co-ordination of the various health care institutions

All of the institutions in Hamilton which provide acute and chronic care come under the co-ordination of the Hamilton District Health Council for planning. Although we are autonomous institutions we voluntarily allocate our operating components to work within the approved plans. We therefore have a Health Council which is the formal body for approving the plans. Each institution has membership on this Council. There are three major committees which relate to the Health Council:

- Resources Management Group;
- Planning Group;
- Health Services Advisory Committee.

The resources Management Group is concerned with the planning and use of the facilities and administrative staff to support the provision of health services.

The Health Services Advisory Committee is concerned with recommending the scope and quality of health services and the centres where health services should be consolidated. Members of the two committees meet to form the Planning Committee which brings forward the plans to the Health Council. The University is equal partner.

The Health Council sends its recommendations to the Ministry of Health. Following approval by the Ministry the funds flow to the institutions. This is based upon the plans put forward by the Health Council approved by the government.

ii) Co-ordination of the various "regional" health organisations (regional insurance centres, regional representation of collectivities, regional and national professional organisations): None.

iii) Global co-ordination at a "regional" level (i) and (ii): None.

5. Use of "Regional" Health Care Centres as Education Centres - The Role of "Regional Practitioners" as Teachers

Clinical education is supplied in community health care institutions and by general practitioners. Family physicians teach undergraduate medical and nursing students and form a major teaching resource in the community. These physicians volunteer their services to the Faculty of Health Sciences and undertake teaching responsibilities in addition to their clinical commitments. The Community Physicians Programme is one of the electives available under the Clinical Electives Programmes. An increasing number of physicians in the community carry clinical education responsibility for Phase IV students and postgraduate students in Family Medicine.

IV. Integration of the Health Education and Health Care Systems

1. Administrative Structure

The Health service system in Hamilton is organised through the Health Council with the Faculty of Health Sciences as a partner.

Faculty members of the University Division of Health Sciences must be part of the health care system in the area. There is not an exclusive university portion of the health care system. The experiment operates within a publicly funded education and health care system.

We have attempted to organise Health Services on a District rather than an institutional basis in our community. There is therefore a major organisation of secondary and tertiary care services and we are trying to establish a primary care programme largely composed of general physicians, family physicians and nurses. This organisation has prevented us from making any one centre a tertiary care centre. Thus, neurosurgery and cardiovascular surgery are housed in one of the institutions (Hamilton General Hospital), the transplantation programme in another hospital (St. Joseph's Hospital), and the Medical Centre of the University houses the neonatal and perinatal programmes. In this way, each of the institutions has a fairly good mix of secondary and tertiary care. In addition, each of the hospitals has an active general practice or primary care group who relate effectively to the secondary care programmes in the institutions.

The arrangements for planning for health services in Hamilton involve a Health Council in which all the institutions take part. This includes the Faculty of Health Sciences. The clinical faculty of the Faculty of Health Sciences are members of the Health Services Programmes of the District. We have therefore, health services programmes established by the Health Council in which our clinical faculty take part in providing service and teaching. We do not have a two-tier system of teaching and non-teaching services in terms of planning operations. Obviously, some part of the Health Services sector take a bigger load of teaching than others.

This is an important attempt since it tries not to differentiate the teaching part of Health Services from the non-teaching which is obviously a very important issue in a publicly funded health care systems. It also helps one to achieve an educational framework for students in which a two-class system is not emphasized.

2. Participation of the Faculty of Health Sciences

   i) In the analysis of the needs of health personnel and the satisfaction of these needs

      - periodic assessments are carried out.

   ii) In the analysis of the needs of the health care

      - infrastructure periodic studies are done.

   iii) In a policy of prevention

      - emphasized throughout education programme.

iv) In a definition a "regional" health policy (integration of the various policies of transport, housing, education, leisure)

- emphasized to the students in all programmes.

3. Research Policy of the Faculty of Health Sciences at McMaster University according to the above-mentioned needs

The Faculty of Health Sciences early in its inception created a special operating group to handle research much in the same way it did for education. There is a Committee on Scientific Development with a Chairman who is accountable to the Faculty Executive and Council for the scope and quality of the research programme. Early in its establishment the School decided to concentrate its area of activity in a few special areas so as to achieve in a few health problem areas a broad range extending from basic research through to applied and developmental including a large component of social and health services research. The major programmes which have been established include one in cardiovascular and thromboembolic disorders, one in reproductive biology, one in host resistance, a programme in pharmacology (centered on the effects of chemicals on man) and a developing programme in Brain and Behaviour. The success of the programme can partly be identified by the fact that although we are a new Faculty the level of financial support of the faculty members places us third or fourth in this country in funding. A strong programme in clinical epidemiology and biostatistics was established to provide a foundation for all experimental design including studies on the social and clinical aspects of medicine in the area of health care. A number of key studies have come from this group including the role and value of the Nurse Practitioner, Compliance in Hypertension Therapy, and the economic impact of group practice in primary care versus solo practice. The impact of the Health Sciences Research Programme on Education has been significant and because of the broad spectrum it affects all areas of educational activity.

In addition, the Health Sciences Research capabilities serve as an important resource for planning and study in relation to issues centered upon the delivery of health services in the community.

V. Implementation of the Faculty of Health Sciences at McMaster University: Difficulties and Resistances

1. Economic and Financial Aspects

The Faculty of Health Sciences is funded through grants from the Ministry of Colleges and Universities to the University, the Ministry of Health, for cost-shared clinical positions and from student fees. The school is developed on a relatively restricted funding basis in terms of operating programmes since it is in a period of student growth and all university students are funded on the basis of slipped-year financing. That is, the university receives money for last year's students, not for the students enrolled in this year. There is therefore a sizeable gap in the amount of funding available to the university for the Faculty of Health Sciences. This will become easier within two years. The most important aspect of the programme is that each full-time faculty member has a limit placed on earnings and 2/3rds of the earnings above the ceilings are turned back to the faculty to be dispersed for further clinical apointments. This had made it possible for the faculty to experiment in new developments which might have been tougher to do on a line budget arrangement. In addition, the faculty has had to depend to a considerable extent on grants from both the federal and provincial governments for some of its innovative programmes, - that is, the nurse practitioner programme, the development of the unit in clinical epidemiology and biostatistics. In order to get the Master of Health Sciences Programme off the ground, the Faculty had to resort to a grant from the Kellogg Foundation. Thus, the government financing through the usual channels has been inadequate for the development of new innovative programme.

2. Psycho-Sociological aspects: Changes in attitude

   i) On the part of the administration and public authorities

      - university support has been good;
      - failure of government to make decision re health manpower and Health Service places programmes, such as those for nurse practitioners, in jeopardy.

   ii) On the part of teachers

      - in general good acceptance, although (because of being a new school) there was considerable selection of teachers.

   iii) On the part of students

      - good acceptance by undergraduates;
      - less acceptance by postgraduate students (come from different schools).

   iv) On the part of health care teams: slow progress.

   v) On the part of the population: slow progress.

3. Institutional Aspects

   The experiment has been well accepted within the University.

THE UNIVERSITY OF KUOPIO
FINLAND

Vice-Rector: O. Hänninen

PARTICULARS OF PARENT UNIVERSITY

Name : The University of Kuopio

Date of creation : founded 1966
disciplines planned 1970
teaching began 1972

Number of students : 665 and 38 at postgraduate phase (1975)
2, 100 envisaged for 1981

Number of teachers : 129 (end of 1975)

Institutional structure:
1. Department of Clinical Medicine
2. Department of Clinical Theoretical Sciences
3. Department of Community Health
4. Department of Dentistry
5. Department of Environmental Hygiene
6. Department of General Biology
7. Department of Mathematics, Physics and Chemistry
8. Department of Nursing (planning stage)
9. Department of Pharmacy
10. Department of Social Sciences

plus

Research Institute for Community Health and University Central Hospital

I. Main Objectives of the Experiment

1. To develop a comprehensive programme for the education of different kinds of health care personnel.

2. To educate teams at the academic and vocational level for the health care system.

3. To educate and train specialists for the community health care and to develop the services of the community health care.

4. To integrate medical sciences, natural sciences and social sciences in education and research.

5. To provide health education of the community as a whole with the aid of mass media as an intervention and research project.

II. The Education System of the University of Kuopio

1. Institutional Structure*

i) Department of Clinical Medicine

Date of creation : 1974

Number of medical students at clinical phase } 200 (1975)
(some teaching is given to dental students)

Number of teachers : 15 full-time (1975)

ii) Department of Clinical Theoretical Sciences

Date of creation : 1972

Number of students (at least some teaching to all students during the second or third year) } about 200 (1975)

Number of teachers : 18 (1975)

iii) Department of Community Health

Date of creation : 1973

Number of students :
- some teaching to all students during the first year : 200
- at least some teaching to all medical students every year during the following 4 years : 400
- some teaching also to other students (e. g. students of nursing, dental students and pharmacy students).

Number of teachers : 8 (1975)

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[*] The numbers of students given are estimates as the numbers vary in different months according to educational needs. The numbers of teachers given does not include the considerable number of part-time teachers who come from the University Hospital, the health care centres and other universities. Teaching nurses are also omitted.

iv) Department of Dentistry

Date of creation : 1974

Number of dental students at clinical phase : 30 (1975)

Number of teachers : 10 (1975)

v) Department of Environmental Hygiene

Date of creation : 1973

Number of students :
- some teaching is given to all students during the first year : 200(1975)
- in their special studies : 23(1975)

Number of teachers : 8 full-time (1975)

vi) Department of General Biology

Date of creation : 1972

Number of students (teaching to all students during the first and the second year) : 200 or more depending on the time of year (1975)

Number of teachers : 28 full-time (1975)

vii) Department of Mathematics, Physics and Chemistry

Date of creation : 1972

Number of students :
- teaching to all students during the first year : 200(1975)
- chemistry-biochemistry students : 15(1975)
- medical physics : 20(1975)

Number of teachers : 3 (1975)

viii) Department of Nursing

Date of creation : in planning

Number of students (specialist nurses following one year programme) : 20 (1975)

Number of teachers : 3 (1975)

ix) Department of Pharmacy

Date of creation : 1973

Number of students in their special studies : 34 (1975)

Number of teachers : 7 (1975)

x) Department of Social Sciences

Date of creation : (Still combined with Department of Community Health, although the first teachers were appointed in 1973)

Number of students :
- some teaching to all students during the first year : 200(1975)
- some teaching to medical and dental students also later : 130(1975)
- teaching to students of nursing : 20(1975)

Number of teachers : 4 full-time (1975)

2. Co-ordination of the Education System

i) Within the Experiment

The curricula have been developed on the basis of determined educational objectives. Part of the educational objectives of the various curricula are common. The planning of the curricula (see Figures 1 and 2) is carried out in respective curriculum committees and adjusted in the General Curriculum Committee, all of which follow the realization of the educational plans. The various departments of the University of Kuopio teach according to the accepted plans.

ii) Between the Experiment and the University

The whole of Kuopio University forms the experiments. The University has no true faculty structure. The different departments give integrated courses and are responsible for teaching the students following the different curricula. At present, there is one General Curriculum Committee and subcommittees for all 6 study branches and a Committee of Postgraduate and Continuing Education. The vice rector acts as Chairman of the General Curriculum Committee. There are about ten members in the committees: representatives of different departments teaching and three students.

The teaching proceeds in the form of courses on defined topics. Each course has a chief and if the course is a large one there are coordinators to help the chief of the course. It is also possible to establish a course committee for large courses. Each department has its own administrative set-up.

Table 1

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE OF THE UNIVERSITY OF KUOPIO

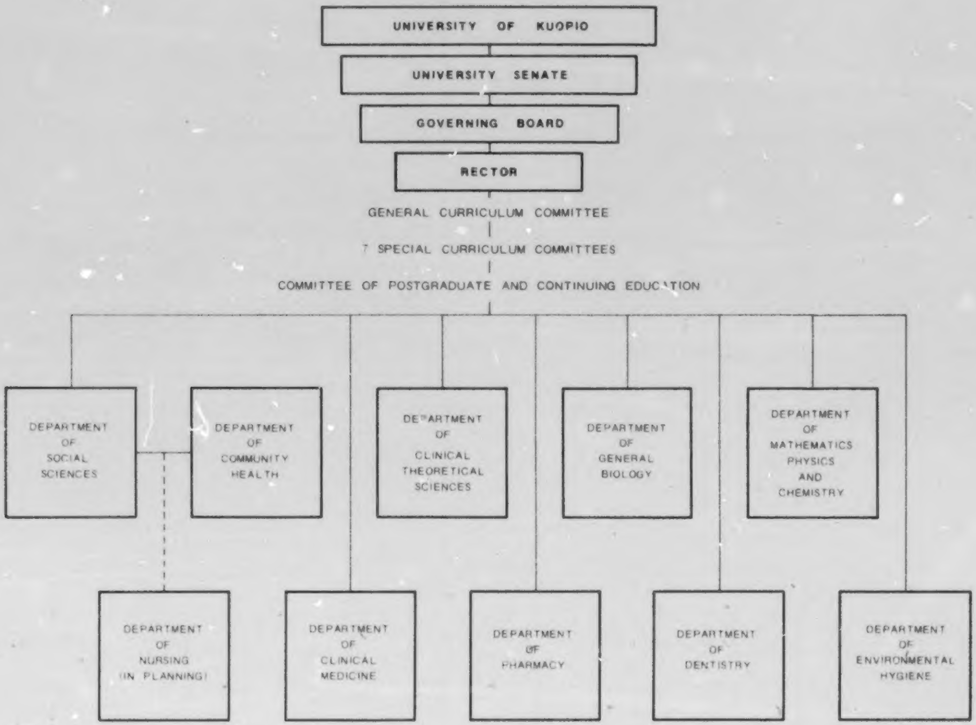

UNIVERSITY OF KUOPIO
UNIVERSITY SENATE
GOVERNING BOARD
RECTOR
GENERAL CURRICULUM COMMITTEE
7 SPECIAL CURRICULUM COMMITTEES
COMMITTEE OF POSTGRADUATE AND CONTINUING EDUCATION
DEPARTMENT OF SOCIAL SCIENCES
DEPARTMENT OF COMMUNITY HEALTH
DEPARTMENT OF CLINICAL THEORETICAL SCIENCES
DEPARTMENT OF GENERAL BIOLOGY
DEPARTMENT OF MATHEMATICS PHYSICS AND CHEMISTRY
DEPARTMENT OF NURSING (IN PLANNING)
DEPARTMENT OF CLINICAL MEDICINE
DEPARTMENT OF PHARMACY
DEPARTMENT OF DENTISTRY
DEPARTMENT OF ENVIRONMENTAL HYGIENE

Figure 1

THE PRINCIPLES USED IN CURRICULUM DEVELOPMENT UNIVERSITY OF KUOPIO

PLANNING MUST BE BASED ON AN ANALYSIS OF TASKS AND RESPONSIBILITIES

CURRICULUM UNDER DEVELOPMENT MUST BE DERIVED FROM STATED EDUCATIONAL OBJECTIVES

SENIOR AND JUNIOR TEACHERS AS WELL AS STUDENTS MUST BE INVOLVED IN PLANNING

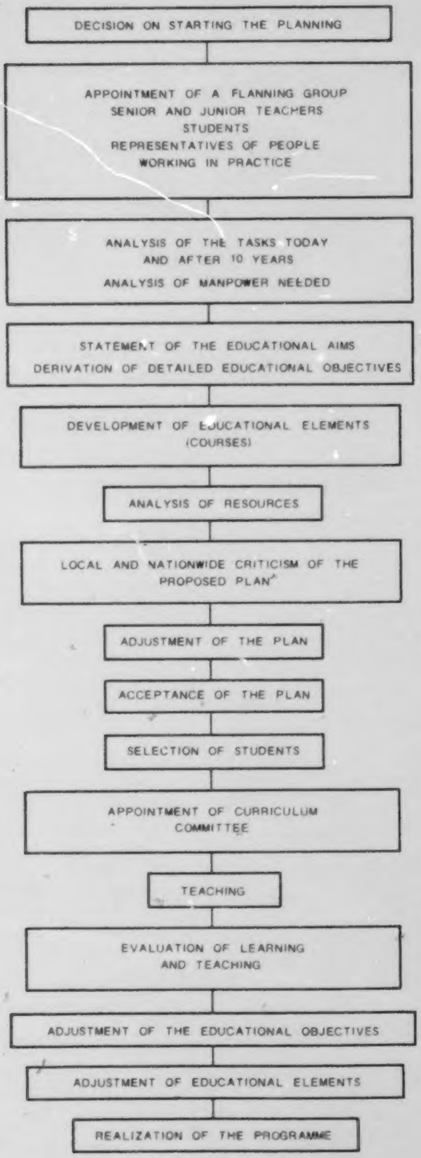
PLANS MUST BE SUBJECTED TO INTERNAL AND EXTERNAL CRITICISM

FOLLOW UP OF THE REALIZATION OF THE PLANS MUST BE ARRANGED

PLANNING MUST BE A CONTINUOUS PROCESS WHERE FEEDBACK OBTAINED IS ACCEPTED

Figure 2

THE PROCESS FOLLOWED IN CURRICULUM DEVELOPMENT
UNIVERSITY OF KUOPIO


DECISION ON STARTING THE PLANNING
APPOINTMENT OF A PLANNING GROUP
SENIOR AND JUNIOR TEACHERS
STUDENTS
REPRESENTATIVES OF PEOPLE
WORKING IN PRACTICE
ANALYSIS OF THE TASKS TODAY
AND AFTER 10 YEARS
ANALYSIS OF MANPOWER NEEDED
STATEMENT OF THE EDUCATIONAL AIMS
DERIVATION OF DETAILED EDUCATIONAL OBJECTIVES
DEVELOPMENT OF EDUCATIONAL ELEMENTS
(COURSES)
ANALYSIS OF RESOURCES
LOCAL AND NATIONWIDE CRITICISM OF THE
PROPOSED PLAN
ADJUSTMENT OF THE PLAN
ACCEPTANCE OF THE PLAN
SELECTION OF STUDENTS
APPOINTMENT OF CURRICULUM
COMMITTEE
TEACHING
EVALUATION OF LEARNING
AND TEACHING
ADJUSTMENT OF THE EDUCATIONAL OBJECTIVES
ADJUSTMENT OF EDUCATIONAL ELEMENTS
REALIZATION OF THE PROGRAMME

3. Common Theory Courses - Common Core

Education is widely based on integrated teaching and seminars, demonstrations and laboratory work takes place in multidiscipline laboratories. Basic "common" courses consist of chemistry, physics, cell biology, human biology, pathophysiology, public health, ecology, pharmacology, toxicology, sociology, etc. The natural sciences form the common core of most students and the aim is to give all students a comprehensive health education and to eliminate barriers between closely related branches of science. The method of teaching is topic teaching which will shorten the medical curriculum and makes it rational. Figure 3 shows the levels of integration in teaching in the University of Kuopio.

4. Practical training

i) Early Clinical Experience

In university hospitals: the university central hospital is a teaching hospital in which the students learn to do physical examinations of the living human body, to use ECG, spirometers and other instruments and methods of clinical chemistry, in diagnosis. In the first year, students visit the hospital, from the second year onwards they work in all fields of health care.

In other Community Settings: during the first year, the students visit health care centres in rural and urban settings. From the second year onwards they work in dental (dental students) and in the third year in general practices (medical students), in pharmacies as pharmaceut (pharmacy students). By entering community settings at an early stage students meet common diseases and everyday problems, both medical and social.

ii) Team work in clinical experience

Working teams of doctors, nurses, students, etc. are essential. Integrated study also exists in clinical training.

5. Transition from Short Cycles of Health Education to Long Cycles (horizontal and vertical mobility)

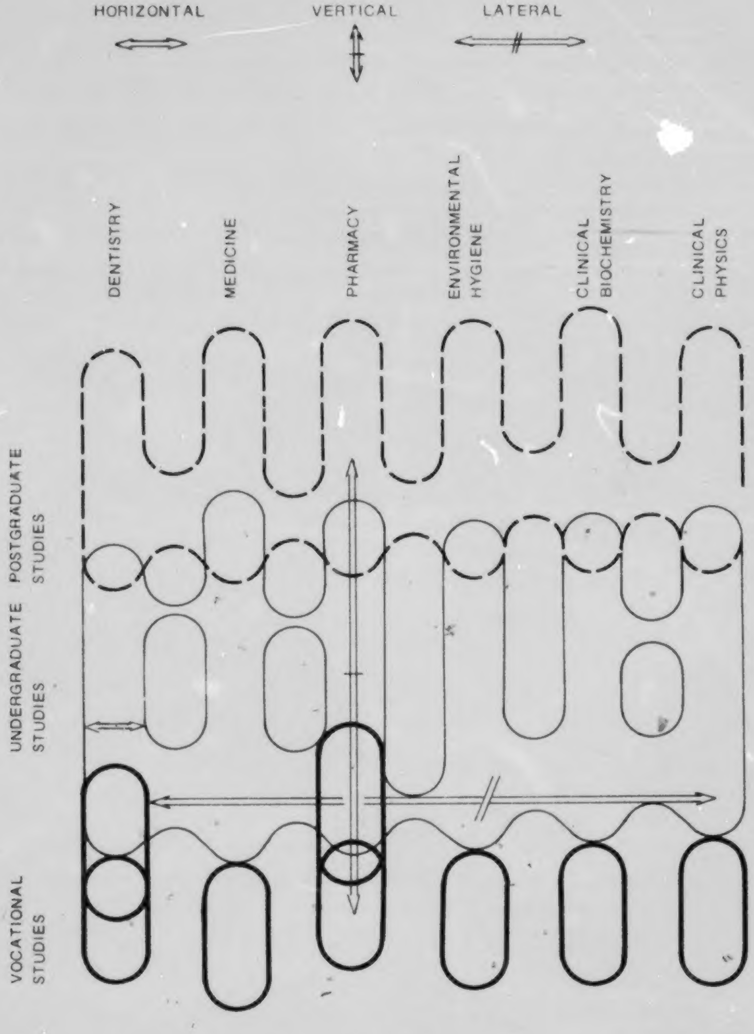
In medicine, a certain quota (15% of total intake) is reserved for students who have earlier passed an examination in the field of health care, e.g. nursing. A similar rule is followed in practice by the Admission Committee also when students for other curricula are selected (see Figure 3).

6. Continuing Education for Health Professional Personnel

An educational programme for nurses and allied health personnel for the degree of Master of Nursing is envisaged. This will be a 2-year

Figure 3

LEVELS OF INTEGRATION UNIVERSITY OF KUOPIO


HORIZONTAL
VERTICAL
LATERAL
DENTISTRY
MEDICINE
PHARMACY
ENVIRONMENTAL HYGIENE
CLINICAL BIOCHEMISTRY
CLINICAL PHYSICS
POSTGRADUATE STUDIES
UNDERGRADUATE STUDIES
VOCATIONAL STUDIES

Horizontal integration indicates topic oriented educational elements. Vertical integration allows an advancement of studies from vocational training up to postgraduate scientific training. Lateral integration indicates common educational elements in the curricula of different health care professions.

programme providing professional education for a nurse teacher, a nurse director, a research worker, or planner in health care service at national, regional and local levels. After completing the master's degree it is possible to continue studies for a doctor's degree in nursing. The candidates for the postgraduate course must have a basic training and 1-year post-basic specialist training-that is to say, 3.5 years of professional training and one year of practice between the basic training of 2.5 years and post-basic training of one year. At the current stage a one year course is given with lower objectives to a group of 20 specialist nurses.

For scientific postgraduate education and training, a general plan has been prepared and accepted in the University of Kuopio and a special committee has been appointed for its realization. The elements of the plan are general scientific education, individual methodological studies and research work. The Committee of Postgraduate and Continuing Education discusses all individual plans submitted for the postgraduate students and it makes a recommendation for the two teachers who will be responsible to give advice and continuous support to the student during his studies. At the present moment, it is possible to obtain the degrees of Doctor of Dentistry, Doctor of Medicine and Surgery, Doctor of Pharmacy and Doctor of Philosophy.

In addition to scientific postgraduate education and training, programmes are available for specialist training in various specialties in medicine, in clinical chemistry (for biochemists and chemists) and in clinical pharmacy (for dispensers).

III. The Health Care System of the "Region" served by the Experiment

1. Brief Description of the National Health Care System

The Finnish health care system (see Figures 4 and 5) is regulated mainly by laws on public health and hospitals. Communes are responsible for the services in their own region. The Government gives support for building and the establishment of health care units and their running depending on the economic situation of the commune. There are five university central hospitals, 15 other central hospitals and a number of regional hospitals and city hospitals. For mental diseases a different set-up of hospitals has been established. The basic units of health care are Health Care Centres. University central hospitals lead the planning in their own areas and they are responsible for the specialist care of the patients together with the central hospitals. The hospitals are owned by a number of communes with the exception of city hospitals. Universities own one third of their university central hospitals. Health Care Centres are owned by one or a small number of communes. Patients pay only a nominal amount of the cost of their using these services.

Figure 4

NATIONAL AND LOCAL GOVERNMENTS IN FINLAND

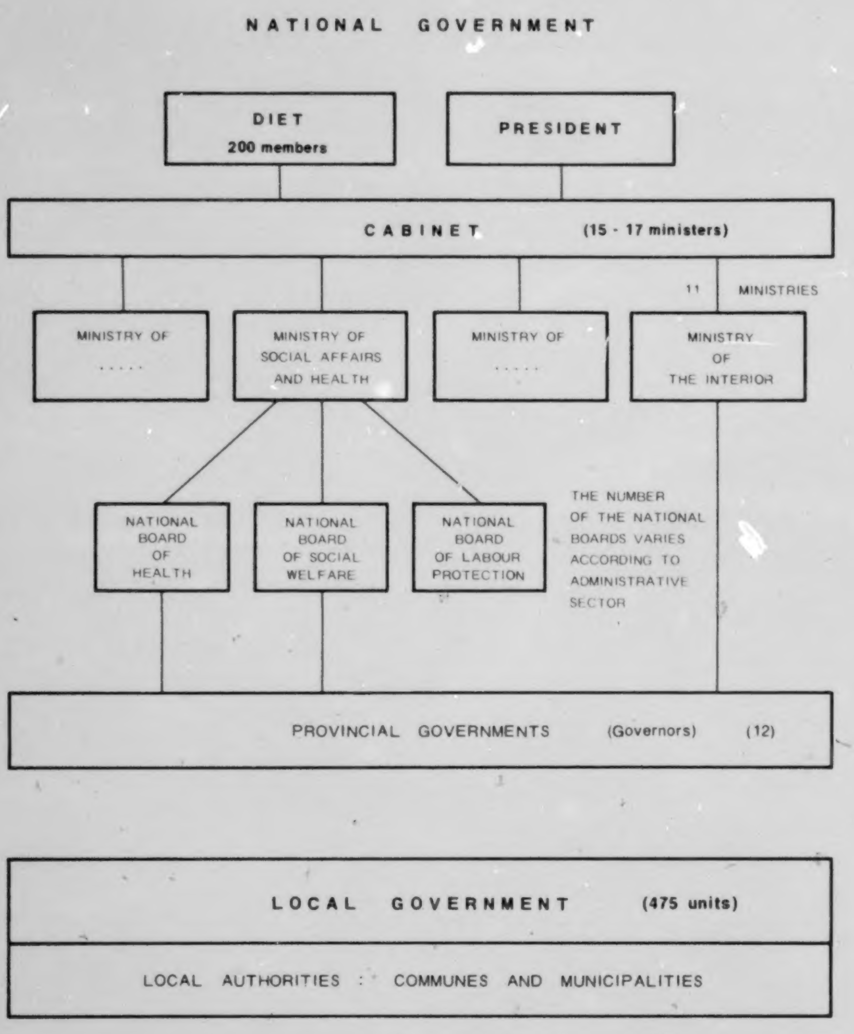
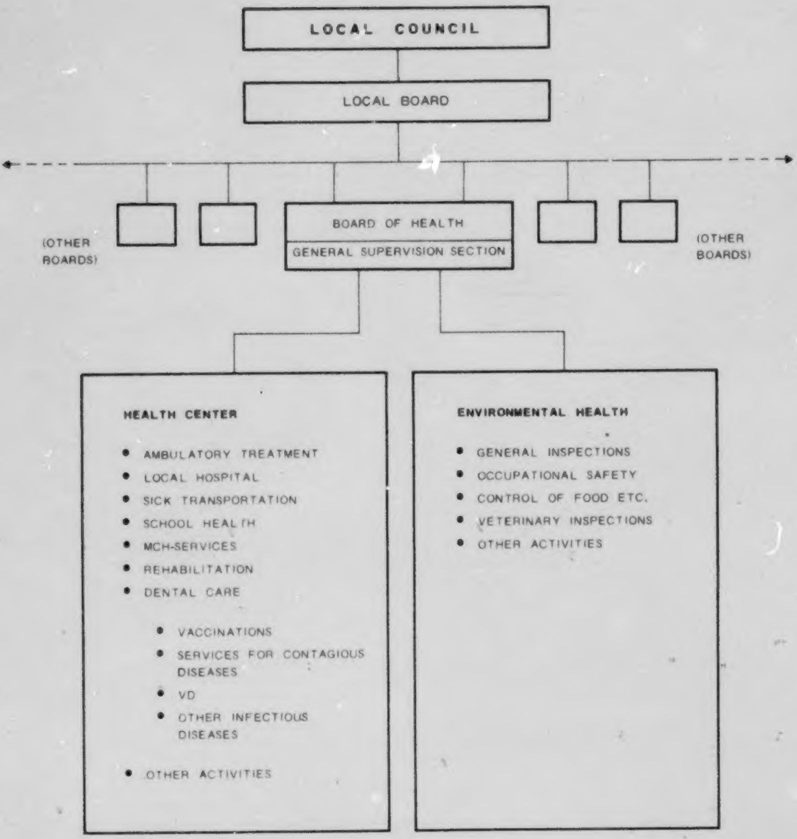

NATIONAL GOVERNMENT
DIET
200 members
PRESIDENT
CABINET (15 - 17 ministers)
11 MINISTRIES
MINISTRY OF
.....
MINISTRY OF SOCIAL AFFAIRS AND HEALTH
MINISTRY OF
.....
MINISTRY OF THE INTERIOR
NATIONAL BOARD OF HEALTH
NATIONAL BOARD OF SOCIAL WELFARE
NATIONAL BOARD OF LABOUR PROTECTION
THE NUMBER OF THE NATIONAL BOARDS VARIES ACCORDING TO ADMINISTRATIVE SECTOR
PROVINCIAL GOVERNMENTS (Governors) (12)
LOCAL GOVERNMENT (475 units)
LOCAL AUTHORITIES : COMMUNES AND MUNICIPALITIES

Figure 5

LOCAL HEALTH CARE AND ITS ADMINISTRATION IN FINLAND


LOCAL COUNCIL
LOCAL BOARD
(OTHER BOARDS)
BOARD OF HEALTH
GENERAL SUPERVISION SECTION
(OTHER BOARDS)
HEALTH CENTER
AMBULATORY TREATMENT
LOCAL HOSPITAL
SICK TRANSPORTATION
SCHOOL HEALTH
MCH-SERVICES
REHABILITATION
DENTAL CARE
VACCINATIONS
SERVICES FOR CONTAGIOUS DISEASES
VD
OTHER INFECTIOUS DISEASES
OTHER ACTIVITIES
ENVIRONMENTAL HEALTH
GENERAL INSPECTIONS
OCCUPATIONAL SAFETY
CONTROL OF FOOD ETC.
VETERINARY INSPECTIONS
OTHER ACTIVITIES

2. Regional Data

i) Geographical: The city of Kuopio is situated in eastern Finland in the middle of a great lake area, approximately 350 km northeast of Helsinki. The area served is large and the population scattered over it.

ii) Demographic: Kuopio has nearly 75,000 inhabitants. The population of Kuopio County is 260,000. In eastern Finland the population is nearly one million. The University of Kuopio is the only university having a curriculum in environmental hygiene. The Universities of Helsinki and Kuopio have full programmes for pharmaceutical education at the present moment. The Universities of Helsinki, Kuopio, Oulu and Turku have dental education, and the Universities of Helsinki, Kuopio, Oulu, Tampere and Turku have medical education. This means that the University of Kuopio is serving larger areas of the country than only eastern Finland or Kuopio city. Eastern Finland suffers from high morbidity and mortality especially from cardiovascular diseases (see Figure 6).

iii) Socio-Economic and Political: the University is situated in and serves an urban area (City of Kuopio). Kuopio is an important centre for domestic and international tourism and the centre of business and administration of eastern Finland. It is both an industrial (food, woodwork, textile) and a cultural town. Socially it consists mainly of the middle and lower classes (services personnel, industrial workers, farmers, lumberjacks).

3. Data concerning the "Regional" Health Care System

i) Number of university teaching hospitals

Kuopio University Central Hospital (with approximately 1,000 patient beds, one-third owned by the University).

ii) Number of private or public hospitals, clinics, health care centres (non-university)

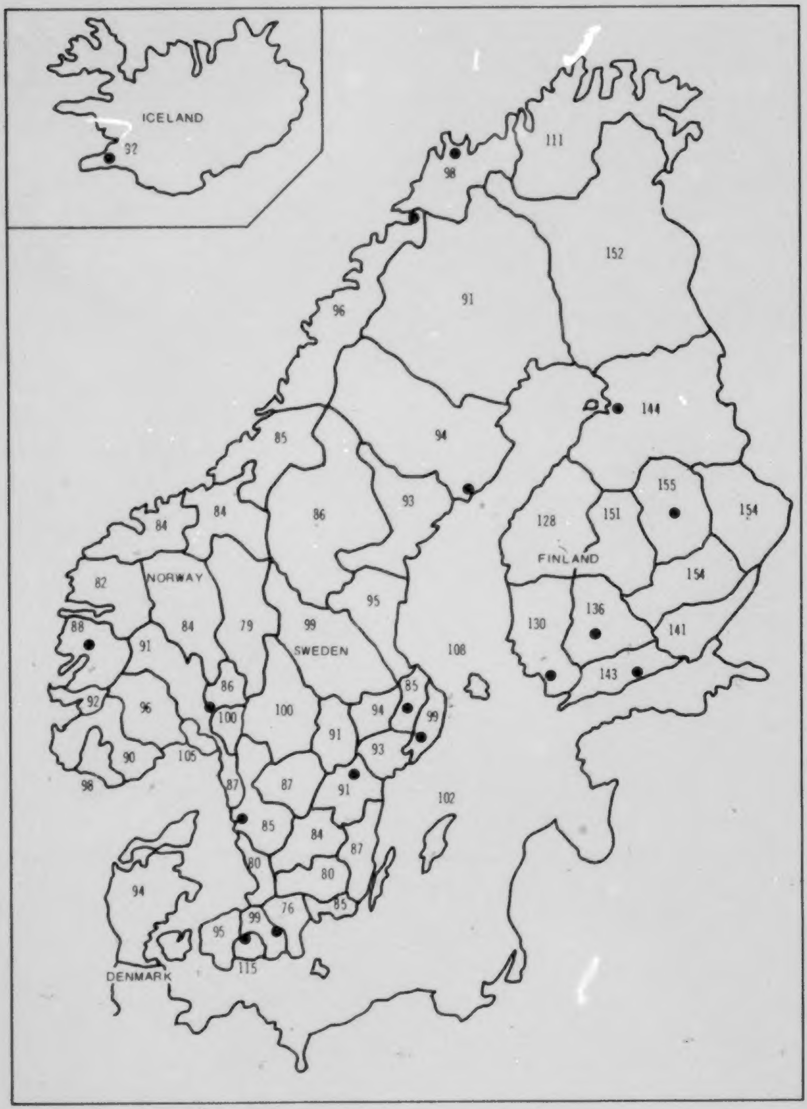
Since the Kuopio area already has two central hospitals, two regional hospitals and some smaller hospitals within the town or with easy accessibility, it will only require an enlargement of the University Central Hospital with about 400 beds (equipped with scientific research facilities). There are 13 health care centres for out-patient care which are used in teaching. Private hospitals do not exist in the area, but there are a few private polyclinics.

iii) Health Care professionals

There is a shortage of physicians (at the end of 1968 there was one physician per 1,000 inhabitants approx.) and a shortage of dispensers all over Finland and a local shortage of dentists in developing areas of the country. The expansion of education will change the situation in 1980-1990.

Figure 6

STANDARDIZED MALE MORTALITY RATIO (SMR)
BY COUNTIES IN THE NORDIC COUNTRIES IN 1971


ICELAND
92
111
98
152
91
96
144
94
85
155
93
154
84
86
84
128
151
FINLAND
NORWAY
82
154
95
136
130
88
84
79
99
141
91
SWEDEN
108
143
86
85
92
96
100
100
94
99
91
93
105
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87
87
91
102
85
84
87
80
80
94
99
76
85
95
115
DENMARK

4. Co-ordination of the "Regional" Health Care System

i) Co-ordination of the various health care institutions

All the health care units are owned by the communities and they receive governmental support. The central, regional and smaller hospitals collaborate with the Health Care Centres.

Figures 5 and 7 give an idea of the administration of health care as well as of the functions of the Health Care Centres.

ii) Co-ordination of the various "regional" health organisations

The University of Kuopio has signed an agreement with Kuopio City and a number of other communes for collaboration. The Occupational Health Centre of Kuopio has started and in the future it may be amalgamated with the university.

The co-ordination of the various health care units has proceeded under the leadership of the Kuopio University Central Hospital rapidly in the laboratory services. The rational distribution of different tasks between the different laboratory units has proceeded faster than in other areas of the country. At the end of 1975, the University Central

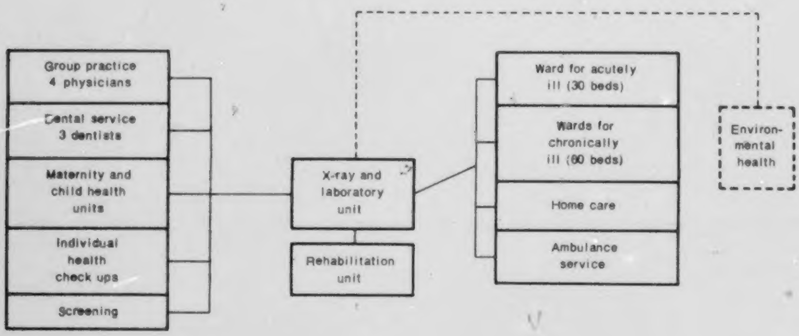
Figure 7

SERVICE UNITS IN A HEALTH CENTRE FOR 10 000-15 000 INHABITANTS

Group practice 4 physicians
Dental service 3 dentists
Maternity and child health units
Individual health check ups
Screening
X-ray and laboratory unit
Rehabilitation unit
Ward for acutely ill (30 beds)
Wards for chronically ill (60 beds)
Home care
Ambulance service
Environ-mental health

Hospital is giving analytic help to all Health Care Centres in Kuopio County. The information transfer network established in the Data-ECG-project will give further support for collaboration and co-ordination.

5. Use of "Regional" Health Care Centres as Education Centres. The Role of "Regional" Practitioners as Teachers

The University of Kuopio has an agreement with 13 Health Care Centres in eastern Finland. Medical students visit these for shorter or longer periods of time during the first, third, fourth and fifth study years. During each visit, they have a study programme which depends on the stage of their studies. The personnel and especially the practitioners do the main part of the teaching during these periods. The University of Kuopio has arranged seminars to train the personnel of the health care centres to teach. Teachers from the Department of Community Health and the Department of Clinical Medicine have been responsible for this training of teacher practitioners. Teachers from the University also visit the Health Care Centres when the students are there.

Although it has been generally accepted that Health Care Centres are used in teaching, the legislation is deficient. Official rules for the responsibility are lacking. Furthermore, special support for building teaching facilities in connection with the Health Care Centres should be available.

6. Other Possible Characteristics of the "Regional" Health Care System

Several of the Health Care Centres in the area lack space. It would be desirable if the educational functions of the centres were accepted when new buildings are planned.

IV. Integration of the Health Education and Heath Care Systems on a "Regional" Basis

1. Participation of the University of Kuopio

i) In the analysis of the needs of health personnel and satisfaction of these needs

When the different curricula of the University of Kuopio were in the planning stage, an analysis of the needs of the respective personnel in the health care system was carried out. These studies revealed a shortage, either at regional or whole country level, of personnel in the health care system and this has been the main determinant for starting the curricula presently run in the University of Kuopio.

ii) In the analysis of the needs of the health care infrastructure

The infrastructure has also been studied. When developing the objectives of each of the curricula, discussion of the tasks of the personnel was carried out. The goal of the plan is education of health care teams, e. g. in dental care or pharmacy. The discussions have had influence on the thinking of the whole country.

iii) In a policy of prevention

North Carelia is the black spot on the Finnish map. Cardiovascular diseases are particularly common. The North Carelia project is a comprehensive diagnostic and preventive action against these diseases in the region.

The Development Project of Information Systems for Out-Patient Care is directed to give help for health care units in rural areas by information collection, processing and distribution via the information transfer network established in connection with the Data-ECG-Project.

iv) In a policy of health education

Mass media are used for informing the population about healthy life and the common symptoms of diseases in the County of North Carelia (the research area).

v) In a definition of "regional" health policy

The University of Kuopio is in contact with the Regional Planning Office and university teachers have participated in the planning committee. The University of Kuopio has been asked to express its opinion about planning projects like the Puijo-project.

2. Research Policy of Kuopio University according to the above-mentioned Needs

Associated with Kuopio University there is a Research Institute for Community Health for research in social medicine, occupational medicine and hygiene. The Institute has been planned to serve the whole country, studying the use of various medical services, population habits and attitudes to public health matters. At the present moment, three large projects are under way in the Institute (North-Carelia project, Data-ECG-Project and Development Project of Information Systems for Out-Patient care). Research in social medicine, occupational medicine and environmental hygiene is carried out as well as investigations into the need for medical services of the population and the use of these services.

An official document on the research policy of the University of Kuopio is under preparation and it will be ready in spring 1976.

V. Implementation of the University of Kuopio: Difficulties and Resistances

1. Economic and Financial Aspects

There is a lack of teachers in some fields. The University is located in the developing area of the country and cannot rely on part-time working teachers as would be possible in Southern Finland. The development of the University Central Hospital has proceeded more slowly than planned.

2. Psycho-Sociological Aspects: Changes in Attitude

i) On the part of the administration and public authorities:

The University of Kuopio has unanimous support from the general public both in the City of Kuopio and Kuopio County. The authorities also give all their support. As a concrete indication of this, there have been two collections of money to help the University when teachers' salaries have been a problem. This is not common, since the University is a state institution; indeed there has been some difficulty in putting the money to use on account of this fact.

ii) On the part of teachers

Most of the teachers feel strongly that the approach to educational planning and the realization of plans has been rational and meets modern requirements. The workload of some of the teachers has been enormous and will continue to be, since elsewhere there are many more teachers for the same workload e. g. in the University of Helsinki. Teachers who have moved from other universities have rapidly accepted the ideology of the University of Kuopio.

iii) On the part of students

In the beginning the students were subjected to considerable pressure from students from other universities, and they were told that the level of teaching in the new university was not adequate. The reason for these comments was that the curricula were derived from stated objectives, and the courses carried new names and had different content. The outside pressure has now diminished, and the curricula of Kuopio have frequently been mentioned as examples in a positive sense. A number of other universities have adopted some features of the University of Kuopio.

iv) On the part of health care teams

The Health Care Centre personnel have expressed positive opinions on the basis of their experience in teaching situations. The lateral integration between the different curricula has probably broken former barriers between the students of medicine and of other fields.

v) On the part of the population

Although no studies have been made, it appears that the University of Kuopio and at least some of its research activities such as the North Carelia Project are well known in eastern Finland among laymen. It can already be assured that the North Carelia Project has had an effect on the health behaviour of the population in the research area.

3. Institutional Aspects

Although the experiment of Kuopio University appears to be healthy from inside and positively accepted by the surrounding community, some of its features have not met with full understanding from the authorities responsible for its legislation development. Proposals for the new statute prepared by the University of Kuopio were not accepted by the authorities who preferred that the statute should follow the example of certain other universities which have been planned and run in the traditional way. The new statute for the University of Kuopio is now in force, but it is not yet known how much it will affect the progress of the university.

VI. Development of Health Care Manpower Education in Finland

(A note added to the questionnaire)

The Finnish Committee for Health Manpower Training has proposed (Committee Report 1973:106) a general reform in the education of health care personnel. The main aims are:

- to develop the task description of health care personnel and to to simplify the stratification;
- to make "short" level education more uniform and to increase its standard to help transfer from one task to another;
- to provide possibilities for continuation of studies, from short to "intermediate" education level and from "intermediate" to "long" educational level;
- to start new curricula for Bachelors of Nursing degree;
- to bring pharmacy education closer to the education of other health care personnel;
- to link the education of veterinarians to other education in health care;
- to achieve statutory rights and obligations for supplementary training for health care personnel;
- to develop the organisation of the educational system in such a way that regional health universities are created by integrating the different institutions responsible for the education of health care personnel in the five geographical areas of the country;

- to develop collaboration between the education and health and welfare services by establishing a permanent co-operative council.

The recommendations of the Committee are now under close review by a number of working groups. Their reports should be ready early in 1976.

THE EXPERIMENTAL UNIT OF TEACHING AND RESEARCH IN MEDICINE AND HUMAN BIOLOGY, BOBIGNY, FRANCE

Dean: P. Cornillot

PARTICULARS OF PARENT UNIVERSITY

Name	:	University of Paris-Nord (Paris XIII)
Date of creation	:	1970
Number of students	:	12,000
Number of teachers	:	487
Institutional structure	:	1. Faculty of Law and Political Science 2. UER* Economics and Management 3. UER Arts and Human Sciences 4. UER Sciences of Expression and Communication 5. Scientific and Polytechnic Centre 6. University Institute of Technology (Villetaneuse) 7. University Institutes of Technology (Saint-Denis 1 and 2) 8. Experimental UER in Medicine and Human Biology, Bobigny.

I. Main Objectives of the Experiment

1. To finalize and diversify medical education on the basis of an analysis of the qualitative and quantitative needs of the community.

2. To develop and test new types of medical courses.

3. To develop a new pedagogical approach to education for the health professions and to set up an original system of interrelationships

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* UER: Unité d'Enseignement et de Recherche (Teaching and Research Unit).

between short- or long-cycle courses and the various professional categories.

4. To initiate and participate in the co-ordination of the distribution of health care at regional level.

5. To structure and develop operational research in public health.

II. The Education System of the Experiment

Date of creation : November 1968

Number of students : 1,600

Number of teachers : 80 established + 80 auxiliairies.

1. Institutional structure

The Experiment UER Bobigny currently trains general practitioners and specialists and participates in education for various biological, psychological and technical specializations related to health.

i) UER Medicine

Date of creation : 1968

Number of students : 1,600

Number of teachers : 80 + 80

Duration of studies : 6 years

ii) 3rd Cycle Department of General Medicine

Date of creation : 1973

Number of students : 100

Number of teachers : 20

Duration of studies : 3 years

iii) Institute of Theoretical and Applied Psychology

Date of creation : 1975

Number of students : as from 1976: 50 per year

Number of teachers :

Duration of studies : 3 years

iv) 3rd Cycle Institute of Medical and Social Gerontology

Date of creation :

Number of students :

Number of teachers : in process of creation

Duration of studies :

v) IUT of Health Professions

Date of creation :
Number of students :
Number of teachers : in process of creation
Duration of studies :

2. Co-ordination of the Education System

i) Within the Experiment

The experimental nature of the Bobigny Centre extends to all education and research structures. An elected council is responsible for co-ordination.

ii) Between the Experiment and the University

The Bobigny Centre was set up before the University of Paris-Nord. Since its affiliation various co-ordinating activities have been established, mainly in the field of training and pedagogy.

The Dean of Bobigny is also the first Vice-President of the University of Paris-Nord and President of the University Commission on Pedagogy.

3. Common Theory Courses - Common core

In France the first year of medical studies is common to medicine and dentistry. It leads to a competitive examination, failure in which stops the student from proceeding further in medicine. The first year of higher studies is still the only possible platform of access and orientation. Access to first-year medicine is authorized for all holders of the Baccalauréat. It is possible on special authorization for nurses, midwives, kinesitherapists and laboratory assistants holding a "Diplôme d'Etat" but without the Baccalauréat. At Bobigny, students who have failed the examination for medicine or dentistry may, on the opinion of a Commission, enter the second year of the 1st cycle with a view to preparing a "Maîtrise" in Science and Technology (MST) specializing in Expression and Communication, or in Social and Occupational Rehabilitation of Handicapped Persons.

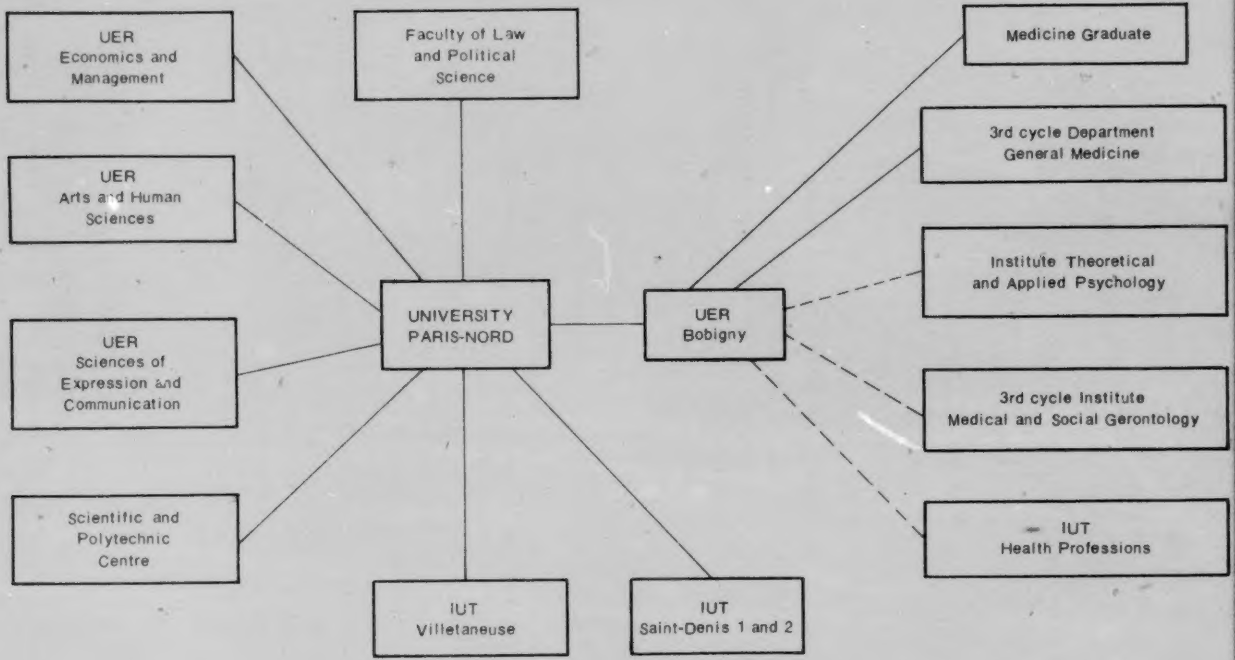
4. Practical Training

i) Early Clinical Experience

In University or Non-university Hospitals: The first-year student can do a paid job in a hospital setting for at least one month. Working under psychologists he analyses real-life situations and presents a synthesis report (experiment on the sensitization of the new student to the psychological and relational dimensions of medicine);

Table 1

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE OF UER. BOBIGNY


UER Economics and Management
Faculty of Law and Political Science
UER Arts and Human Sciences
UER Sciences of Expression and Communication
Scientific and Polytechnic Centre
UNIVERSITY PARIS-NORD
IUT Villetaneuse
IUT Saint-Denis 1 and 2
UER Bobigny
Medicine Graduate
3rd cycle Department General Medicine
Institute Theoretical and Applied Psychology
3rd cycle Institute Medical and Social Gerontology
IUT Health Professions

In other Community Settings: Apprenticeship and situations analysis in a non-hospital setting takes place at the level of the regional community, mainly for general medicine with a view to sensitizing students to non-hospital care facilities.

ii) Team Work in Clinical Experience

Active initiation into the realization of the role of each member of a team (in the form of group dynamics).

5. Transition from Short Cycles of Health Education to Long Cycles of Health Education (horizontal and vertical mobility)

At present the Bobigny UER trains only general practitioners and specialists. It is planned in future to set up a series of new training courses corresponding to short-cycle and long-cycle education. The basic idea is that all education for the health professions should comprise three principal components in different proportions according to the type of training.

We should thus have the following three main orientations:

a) An orientation corresponding to mechanical and biological man (pathological process and therapeutic solutions based on biological or scientific parameters): Biological engineering professions and medical specializations with a biological and technical/specialization with a biological and technical/ orientation.
b) An orientation corresponding to social man (all problems of disease and health arising for the community at social and individual as well as economic and financial level): Professions relating to health economics and health management and socially oriented medical professions.
c) An orientation corresponding to psychological man (perception of the individual and his pathological situation): Professions of applied psychology in the health sector and medical specializations with a psychological and psychiatric orientation.
d) In addition, traditional health professions from short-cycle courses would be introduced at Bobigny: nurses, rehabilitation therapists, IUT graduates in the health sector.

The idea is as follows: students leaving secondary education would follow one of the four main paths (a), (b), (c) or (d). At the end of the first or second year they could sit the PCEM 1* examination or continue their studies along the same path: [short-cycle studies leading to the DEUG (Diplôme d'Etudes Universitaires Générales) or to a "Diplôme d'Etat"] or long-cycle studies for (a), (b) and (c) leading to the MST: Maîtrise des Sciences et Techniques [Diplôme d'Etat].

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* Medical studies last at least 7 years in France and comprise two cycles, one of two years - PCEM 1 and 2 (First Cycle Medical Studies) and the other of 4 years, DCEM 1, 2, 3 and 4 (Second Cycle Medical Studies). At the end of the 2nd cycle the student has to do a one-year assignment as a hospital intern and present his thesis. Officially, the "Doctorat d'Etat" authorises all forms of medical practice, but in fact only general medicine can be practised with this diploma. All other specializations require 2 to 4 years'further study leading to a national diploma (CES: Certificat d'Etudes Spéciales). The Bobigny Centre has set up a structure of further education: the 3rd cycle Department of General Medicine which awards a special diploma after 3 years of training.

There would therefore be both vertical and horizontal mobility - see Figure 1.

6. Continuing Education for Health Professional Personnel

This mainly concerns general practitioners in the Paris region. These doctors are given further training at Bobigny's 3rd cycle Department of General Medicine and participate actively in the instruction and training of future GPs. This experiment in continuing training is one of the aspects of the Bobigny experiment.

7. Other possible Characteristics of the Education System of the Experiment

i) Special reception and training facilities have been set up for wage-earners of various origins wishing to study medicine.

ii) The Bobigny Experimental Centre has elaborate installations for the production and dissemination of television programmes.

III. The Health Care System of the "Region" served by the Experiment

1. Brief Description of the National State Health Care System

i) The French population is covered by an insurance scheme (Social Security) providing 80/90 per cent cover for health care (general practitioners and specialists having mostly concluded a "convention" with the State, public hospitals and dispensaries, "conventionnées" private clinics, profit or non-profit making).

ii) Alongside this system there are private clinics and private consultations where the cost of care is mostly borne by the patients, who are drawn mainly from the higher income groups.

2. "Regional" Data

i) Geographical

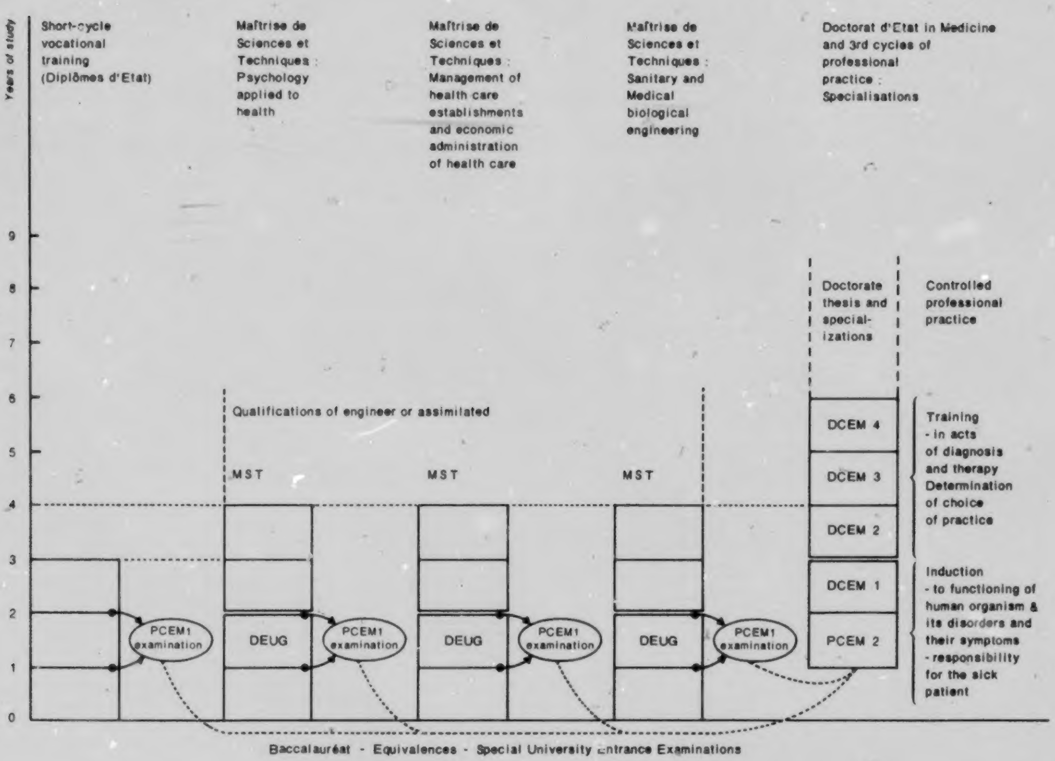
The Department of Seine St-Denis is situated in the northwest of Paris on the periphery of the capital and covers an area of 175.4 km^2.

ii) Demographic - The population served by the experiment

(Department of Seine St-Denis) numbers about 1,500,000, including a large proportion of migrant workers (North Africans and Portuguese). It is mainly young.

Figure 1

UER, BOBIGNY, HORIZONTAL AND VERTICAL MOBILITY


Years of study
0
1
2
3
4
5
6
7
8
9
Short-cycle vocational training (Diplômes d'Etat)
Maîtrise de Sciences et Techniques : Psychology applied to health
Maîtrise de Sciences et Techniques : Management of health care establishments and economic administration of health care
Maîtrise de Sciences et Techniques : Sanitary and Medical biological engineering
Doctorat d'Etat in Medicine and 3rd cycles of professional practice : Specialisations
Qualifications of engineer or assimilated
MST
MST
MST
DEUG
DEUG
DEUG
PCEM1 examination
PCEM1 examination
PCEM1 examination
PCEM1 examination
Doctorate thesis and special-izations
Controlled professional practice
DCEM 4
DCEM 3
DCEM 2
DCEM 1
PCEM 2
Training
- in acts of diagnosis and therapy
Determination of choice of practice
Induction
- to functioning of human organism & its disorders and their symptoms
- responsibility for the sick patient
Baccalauréat - Equivalences - Special University Entrance Examinations

iii) Socio-Economic and Political

The environment is suburban and with a low standard of living on average, has many social problems in its industrial zone. A feeling of frustration develops in relation to Paris (tertiary sector, transport, commerce, leisure inadequate). The Department of Seine St-Denis has a mainly left electorate with a Communist majority.

3. Data concerning the "Regional" Health Care System

i) Number of university teaching hospitals

Bobigny Hospital	750 beds
Bondy Hospital	450 beds

ii) Number of public or private hospitals, clinics, dispensaries, health care centres (non-university)

6 public hospitals (which have concluded an agreement with the Bobigny UER):

St-Denis Hospital	780 beds
Montreuil Hospital	424 beds
Montfermeil Hospital	455 beds
Valère-Lefebvre Hospital	172 beds
Aulnay s/s Bois Hospital	160 beds
Psychiatric Hospital of Ville Evrard	1,600 beds

7 Hospital Centres
10 private non-profit establishments
95 private profit-making clinics

iii) Health Care Professionals

GPs	1,255	Specialists	533
Dentists	577		
Registered Nurses	3,250	Psychiatric Nurses	2,800
Midwives	227		
Pharmacists	428	Laboratory Directors	150
Physical Therapists	514	Orthophonists	120
Chiropodists	131	Orthoptists	16

4. Co-ordination of the "Regional" Health Care System

i) Co-ordination of the various health care institutions

There is no co-ordination of public hospitals (variable degree of specialization) with dispensaries and health care centres (one per commune), nor with private hospital establishments (50 per cent of total hospital beds) nor with non-hospital "liberal" medicine. Some practical co-ordination is beginning to appear in the organisation of emergency medical assistance.

ii) Co-ordination of the various "regional" health organisations

There is theoretical co-ordination of information and certain public activities by the Departmental Directorate of Sanitary and Social Action.

iii) Global co-ordination at "regional" level

Theoretically this is located in the regional Directorate of Sanitary and Social Action responsible for co-ordinating finance, investment and development programmes at the levels of the Paris region (10 million inhabitants). Representatives of Bobigny participate at all levels of this co-ordination.

5. Use of "Regional" Health care Centres as Education Centres - The Role of "Regional" Practitioners as Teachers

The policy of opening up hospital and university structures had made it possible to use non-hospital structures (dispensaries, medical centres, doctors' surgeries) as practical training centres.

As part of the specific training of future general practitioners, regional practitioners take part in teaching students at the Bobigny UER and allow them to do a training assignment in their surgeries. The originality of the special education experiment for general practitioners lies partly in the continuing training activity performed by practitioners through their participation in teaching (active continuing education).

6. Other Possible Characteristics of the "Regional" Health Care System

One of the major obstacles to public hospital co-ordination at the level of the Paris region is the existence of a municipal hospital management administration for the City of Paris. This body claims to be directly dependent on the Ministries, independently of regional co-ordination. It is reluctant to join in co-ordination plans and develops its own programme without adequate co-ordination. A re-organisation project is in progress. The Public Assistance Department with nearly 40,000 beds is currently the largest hospital organisation in the world.

IV. Integration of the Health Education and Health Care Systems on a "Regional" Basis

1. Administrative Structure

The doctors and administrators of the Bobigny Hospital and the Bobigny UER have tried to create an atmosphere of harmony and work at the level of the Department of Seine St-Denis designed to promote co-ordinated activities in the health sector and in medical education. Considerable harmonization of outlooks and initiatives has been achieved. But integration of health care and health education is currently limited to the university hospitals in the context of the Bobigny University Hospital Centre.

2. Participation of UER Bobigny

i) In the analysis of the needs of health personnel and the satisfaction of these needs

Under study (retraining of surplus personnel in psychiatric hospitals for the benefit of general hospitals).

ii) In the analysis of the needs of the health care infrastructure

The Bobigny UER took an active part in the conversion of the Bobigny Hospital thanks to the important contribution of various specialists who were badly needed there (and the resources provided directly by the Ministry of Health to increase the hospitalization potential and improve the functioning of the establishment). The Bobigny Operational Research Centre (SECURIS) participates directly in the formulation of hospital programmes.

iii) In a policy of prevention

Under study (old people, migrants).

iv) In a policy of health education

Under study (first aid, family planning, etc.).

3. Research Policy of the UER Bobigny according to the Above-Mentioned Needs

The Research Centre (SECURIS) develops a series of activities concerning the "health" of the departmental population (e. g. analysis of health "needs" for old people and migrant workers, covering hospital building, etc.).

V. Implementation of the UER Bobigny: Difficulties and Resistances

1. Economic and Financial Aspects

Most of the experiments developed by the Bobigny Centre are carried out without any special appropriations. However, since 1975 the SECURIS Centre has signed two research contracts with public or private bodies. Several other contracts are being studied. The local authorities have decided to finance a research complex and take part in the operation of the SECURIS Centre.

2. Psycho-Sociological Aspects: Changes in Attitude

i) On the part of the administration and public authorities:

In general, experiments concerning the training of health personnel and more particularly doctors, are not very popular in France (especially among academics). There is even a conflict between the Ministries of Health and Education concerning several types of training. Notwithstanding, the UER Bobigny does not have any real difficulties in relationships with the Ministries and the public authorities. It has even been encouraged to continue its innovative efforts in accordance with its experimental status.

ii) On the part of teachers

Sustained interest and considerable commitment to carrying out the experiments.

iii) On the part of students

Substantial participation and high tolerance for the various innovations sometimes far removed from the system officially in force throughout France.

iv) On the part of health care teams

Several experiments are being developed in a hospital environment and are based on a new definition of the respective roles of each team member.

v) On the part of the population

The population has shown the greatest interest in all the new hospital and university structures. Elected representatives take an active part in all activities and meetings likely to promote a harmonious development of the experiments.

3. Institutional Aspects

The development programme for the Bobigny experiment provides, as from 1976, for the creation of a series of health care, education and research structures designed to implement the Regional Health University programme studied and defined by the Bobigny Centre authorities in co-ordination with local authority representatives and regional administrators. This overall programme must be approved by the supervisory Ministries.

THE UNIVERSITY CENTRE FOR HEALTH SCIENCES IN THE NEGEV
ISRAEL

Director: M. Prywes

PARTICULARS OF PARENT UNIVERSITY

Name : The Ben Gurion University of the Negev

Date of creation :
1965 The Institute for Higher Education in the Negev
1969 The University of the Negev
1973 renamed the Ben Gurion University of the Negev

Number of students : 1974-1975: 4,038 students enrolled

Number of teachers :
824 faculty members filling
627 full-time positions (Assistant-Professor)
(15 immigrant academics), plus 70 positions
(Engineer to Senior Researcher in University's Research and Development Authority
(50 immigrant scientists)
9 foreign visiting professors

Institutional structure:

1. Faculty of Humanities and Social Sciences
2. Faculty of Natural Sciences
3. Faculty of Technological Sciences
4. Faculty for Health Sciences

plus

- Preparatory School
- Research and Development Authority
- Sde Boker Campus
  - . Institute for Desert Research
  - . Ben Gurion Research Institute and Archives
  - . College of Technology

I. Main Objectives of the Experiment

1. To join all health care services in the region into an integrated system in order to provide comprehensive medical care for the entire population, by the better use of financial organisational and manpower resources.

2. To merge this system with academic responsibility for medical education by attempting to educate physicians who are aware of the system's needs, and who wish to work in community hospitals and primary care clinics.

II. The Education System of the Experiment

Date of creation : November 17, 1974

Number of students : 34 (1974-75)

Number of teachers : 97 teachers + 7 visiting professors
- 6 full professors
- 15 senior lecturers
- 25 lecturers
- 39 instructors

1. Institutional Structure

i) School of medicine

Date of creation : November 17, 1974

Number of students : 34 (1974-75)
34 (1975-76)

Number of teachers : As above 1974-75
For the year 1975-76: 96 + 2 visiting professors
- 18 professors
- 17 senior lecturers
- 25 lecturers
- 36 instructors

Duration of studies : between 5 and 7 years
3-4 years' basic science education and clinical studies
1 year supervised practical work in hospital and community clinics
1-2 years' medical school

ii) School of Graduate Studies

At present, graduate studies are being offered to resident physicians in the various departments of the hospital. Some 60 physicians involved in the teaching faculty are presently participating. A new programme for Graduate Studies in Basic Medical Sciences (experimental) is now being developed in co-operation with the Faculty of Health Sciences.

iii) School for Continuing Medical Education

Date of creation :

Number of students : approximately 100-120

Number of teachers :

Duration of studies : 1 month per year
for physicians in non-hospital settings +
for immigrant physicians (or 2 months per
2 years; or 3 months after 3 years (on full
salary))

iv) School for Medical Economics, Health and Welfare Administration

Date of creation : 1975 - Academic year 1976/77

Number of students :

Number of teachers :

Duration of studies : (graduate school to Master's degree) or 3 months' course for Kupat Holim + Ministry of Health personnel + administrators of Army Medical Corps (See Annex A)

v) Nursing School

Date of creation : 1960

Number of students : 36 (1975/76)

Number of teachers : 8½

Duration of studies : Practical nurse - 18 months
Registered nurse - 36 months

vi) School of Allied Health Professions

Date of creation :

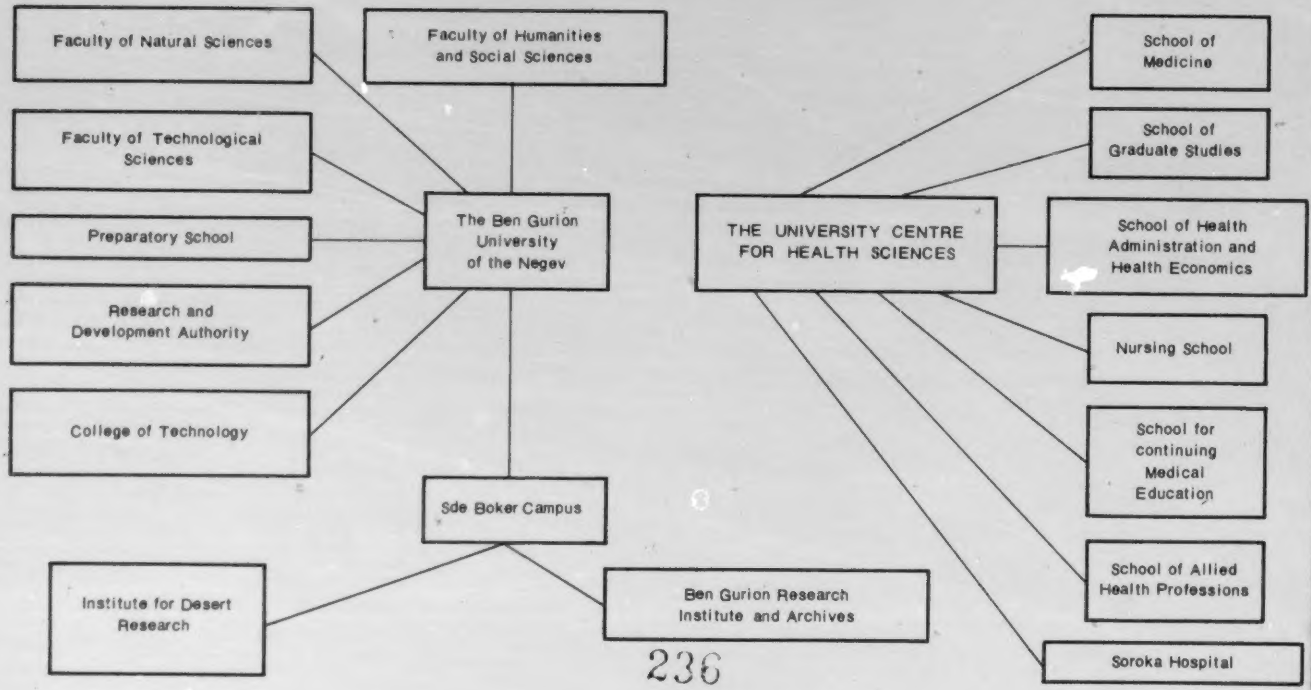
Number of students :

Number of teachers :

Duration of studies : 3 years (2 years theory-1 year practical)

Table 1

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE OF THE UNIVERSITY CENTRE FOR HEALTH SCIENCES OF THE NEGEV


Faculty of Natural Sciences
Faculty of Humanities and Social Sciences
Faculty of Technological Sciences
Preparatory School
Research and Development Authority
College of Technology
The Ben Gurion University of the Negev
Sde Boker Campus
Institute for Desert Research
Ben Gurion Research Institute and Archives
THE UNIVERSITY CENTRE FOR HEALTH SCIENCES
School of Medicine
School of Graduate Studies
School of Health Administration and Health Economics
Nursing School
School for continuing Medical Education
School of Allied Health Professions
Soroka Hospital

2. Co-ordination of the Education System

i) Within the University Centre for Health Sciences

In most countries, medicine, dentistry and pharmacy are university disciplines and allied health professions are taught in hospitals. The Negev experiment hopes to concentrate all health teaching activities in a single integrated educational institution, college or university. The various schools within the Centre for Health Sciences are therefore individually administered yet part of the single faculty of health sciences.

ii) Between the University Centre for Health Sciences and the University

The interdisciplinary framework of this comprehensive university enables close co-operation between the various faculties, e. g. :

- a professor of biochemistry or genetics can also be involved in Health Science research projects,
- teachers for Natural Science Faculty work also for the Centre for Health Sciences,
- the enlargement of Nursing Education is programmed within the Department of Behavioural Sciences.

The entire University will guide, stimulate and support the Health Sciences Centre towards gaining improvement in health care services and medical education in the region.

3. Common Theory Courses - Common Core

A common broad initial education ("core") is envisaged for all students in the University Centre of Health Sciences, including courses in human biology, man and environment, behavioural science (psychiatry, clinical experience) and the basic sciences (maths, physics, pharmacology, chemistry, etc.), as related to health organisation and the delivery of health services. This is to facilitate more flexible admission procedures, to allow students to select their future careers after having a certain amount of experience in various domains. This type of organisation aids the development of common goals within the faculty. Theoretical courses and clinical experience are integrated in the student's curriculum throughout his university career (starting in the student's first year).

4. Practical Training

Early clinical experience is obtained in university hospitals/ in other community settings: from the beginning of their studies, freshmen spend at least one day a week in a hospital or clinic e. g. maternity wards, internal medicine depts. , emergency room etc. under the supervision of tutors.

The clinical teaching programme includes 7 projects, among them pediatrics, chronic diseases, geriatrics and ecology.

The teaching of these clinical subjects is done in clinical settings, namely mother and child neighbourhood clinics, maternity delivery wards, newborn hospital departments; comprehensive health centres, hospital internal medicine departments, and emergency rooms; local homes for the aged and community club houses.

Furthermore, medical students are attached to practitioners in urban and rural clinics from the time of their entry into medical school up until graduation.

5. Transition from Short Cycles of Health Education to Long Cycles (horizontal and vertical mobility)

By means of interdisciplinary working groups optimal horizontal integration is achieved. Students from the School of Allied Health Professions can further their studies within the University Centre for Health Sciences and thus obtain academic degrees, e.g. after 3 years of paramedical studies a student can join the School of Medicine.

6. Continuing Education for Health Professional Personnel

General Practitioners can pursue a one-month (with full salary) post-graduate course each year, as part of an in-service training programme. They are replaced by hospital physicians, this being part of a rotation scheme. The same applies for immigrant physicians and other physicians working in non-hospital settings. In this way, 1,000 doctors receive continuing education each year. They can use their 30 days per year in one of the following ways:

- one day/week in department of nearest hospital working with the head of the department, or
- ongoing courses of 3-5-10 days duration at the Postgraduate Institute or University, or
- 1 month training under supervision in the department of a major hospital.

As indicated in II. 4 above, medical students are attached to practitioners in urban and rural clinics from the time of their entry into medical school up until graduation. This is the best form of continuing education because the physician who is expected to teach must continue to learn in order to function as a teacher.

The Graduate School for Health Economics, Health and Welfare Administration

This is the first graduate school of its kind in Israel, and starts its first year of studies in 1976 leading to a masters degree. In the meantime, two 3-month courses are being given by the School for Kupat Holim (Workers' Sick Fund of the General Labour Federation) and Ministry of Health Personnel as well as administrators serving in the Army Medical Corps.

III. The Health Care System of the Region served by the Experiment

1. Brief description of the National State Health Care System

Health care in Israel has not yet been nationalized although plans for nationalization are in progress. 80% of the population belongs to the Kupat Holim system, the rest belonging to other minor sick funds outside the framework of the General Labour Federation.

2. "Regional" Data

i) Geographical

The Negev is situated in Southern Israel forming a triangle with its Southern apex at the Gulf of Eilat. It covers an area of 14,107 km^2, almost 60% of the country's land mass. It consists of semi-arid desert, becoming more arid from north to south. The altitude ranges from 495 m below sea level (Dead Sea) to 1,000 m above sea level (Mitzpe Ramon). For the main part, the Negev is flat with changes in elevation from 200 to 600 m. The climate is desert climate with a rainfall ranging between 250 mm/year in the north to 30 mm/year in Eilat.

The Negev is one of the six regions in Israel and its "capital" is Beersheva where the university is situated.

ii) Demographic

The population served by the University Centre for Health Sciences in 1974 was 370,000. Between 74.3-77.2% lives in cities or development towns. The rural population lives in villages with less than 5,000 inhabitants.

There are 30,000 Bedouins living in the Negev, where the population is younger than that of the rest of the country and there are most immigrants from Asia and Africa. The Centre serves the entire Negev region.

iii) Socio-economic and political

Due to Israel's financial crisis and growing inflation, the Negev District, which is still considered as an underdeveloped region, faces certain hardships. The region relies on a high number of external manpower commuting from the north - a costly process and the development of the region is thus slowed down.

3. Data Concerning the "Regional" Health Care System

i) Number of university teaching hospitals

Soroka University Hospital	650 (+ 350) beds
Government Psychiatric Hospital: (in construction)	300-400 beds
Josephtal Hospital, Eilat	70 beds with possibility of extending to 250 in emergency.

ii) Number of private or public hospitals, clinics, health care centres (non-university)

The majority belong to the largest medical insurance organisation in Israel: Kupat Holim. There are no private patients, no fee for service, hospitalization, drugs. Health care is free.

iii) Health Care Professionals

296 physicians (88% born outside Israel)
Nurses: 780
All physicians, nurses and other health care workers are salaried employees of the Ministry of Health or Kupat Holim.

4. Co-ordination of the "Regional" Health Care System

i) Co-ordination of the various health care institutions

Co-ordination between all the various health care institutions in the Negev is assured through the Regional Committee for Health Services in the Negev, under the terms of a written agreement.

ii) Co-ordination of the various regional health organisations

A Public Supervisory Committee serves as the co-ordinating body between the various regional and local authorities, participating or delivering health services in the region. This committee is composed of heads of municipal and local authorities, as well as heads of health and welfare agencies in the region, under the Presidency of the former Mayor of Beersheba.

Apart from the curative services, health facilities exist for:

- Sanitation, veterinary service, pest control, dental care in schools - by Municipal authorities;
- Ambulance service - by Municipal authorities in co-operation with Magen David Adom (a voluntary public service);
- Night duty by doctors for ambulatory and first aid care at Magen David Stations (Emergency service) - by Municipalities, Ministry of Health and Kupat Holim;
- Psychological services to schoolchildren - by Municipal authorities;
- Community Welfare - old age homes and clubs - by Ministry of Health, Ministry of Welfare and Malben (voluntary organisation).

iii) Global co-ordination at a regional level

Most of the regional health agencies are operated and staffed by the Kupat Holim. (It is the largest medical health insurance organisation. It ensures 80% of Israel's population. It ensures 87% of the Negev residents.)

5. Use of Regional Health Care Centres as Education Centres - The Role of the Regional Practitioners as Teachers

The teaching of all clinical subjects is done in clinical settings both in the hospitals and the dispersed OPD clinics (within the community).

Every physician in the Negev is a potential member of faculty. Community physicians teach in the university and also work in community clinics. 22 members of the University Centre for Health Sciences are general practitioners involved in teaching freshmen students. Negev physicians from the Soroka University Hospital and neighbourhood clinics form an important source of teachers for the University. Clinicians are also involved in basic science teaching. "All who serve teach, all who teach serve."

6. Other Possible Characteristics of the Regional Health Care System

A good physician and a successful teacher will receive academic recognition similar to his hospital counterparts. The equal recognition of teaching and research efforts, helps create a more balanced faculty of Health Sciences.

IV. Integration of the Health Education and Health Care System on a Regional Basis

1. Administrative Structure

The Director of the University Centre for Health Sciences serves as Director of the Negev Health Services for the Ministry of Health and as Director of Kupat Holim for the Negev, in addition to his role as Dean of the Faculty of Health Sciences. He is thus in a good position to unify regional health agencies with medical education. The Negev health project is the joint endeavour of the Ben Gurion University and the Kupat Holim. They have established this University Centre for Health Sciences, which merges medical education and medical care. The Ministry of Health also joined this project, making it a tripartite arrangement. The American Joint Distribution Committee and its Israeli branch - Malben- also participates in the Organisation and financing of health programmes at the Centre (i. e. community based projects). The Health Sciences Centre is officially recognized by the government as serving the needs of the Negev region.

2. Participation of the University Health Sciences Centre of the Negev

i) In the analysis of the needs of health personnel and the satisfaction of these needs

The University Health Sciences Centre will provide all types of health personnel to meet community health care needs.

ii) In the analysis of the needs of the health care infrastructure

The University Centre for Health Sciences will:

- redefine and replan the needs of the community in terms of hospital beds;
- reorganise the hospital structure into an integrated system;
- elaborate a plan for new departments, buildings, facilities;
- redefine the role and scope of the emergency services;
- enlarge laboratory facilities to create central regional laboratories;
- enlarge outpatient services.

The Centre will also diminish and abolish duplicate services and facilities by:

- linking together clinics, dispensaries, mother and child centres, mental health clinics, dental services, etc. , previously belonging to different health agencies;
- directing health manpower resources to areas of real need;
- making better use of equipment and personnel so as to avoid duplication of functions.

iii) In a policy of prevention

The Kupat Holim is mainly concerned with curative medicine in its health centres, and works in close collaboration with preventive services in the Centre for Health Sciences. The Centre will increase preventive health programmes through the integration with Ministry of Health services and rehabilitative medicine.

iv) In a policy of health education

The role and responsibilities of nurses and other auxiliary health personnel in the community will be enlarged. The Centre will provide a modern health information service.

v) In a definition of a regional health policy

The Centre will enhance co-operation with social welfare institutions, municipalities, local councils, educational systems in the Negev, etc.

3. Research Policy of the University Health Sciences Centre of the Negev according to the above mentioned Needs

The inter-faculty research is applied to defined economic and social problems in the Negev region. The Health Sciences Centre works together with the Research authority on a research project concerning comparative medicine. There are a number of Clinical research Laboratories in the Centre. Other realms of research include clinical technology, desert ecology, desert engineering, etc.

All research programmes aim to enhance the industry, agriculture, culture and health of the Negev region.

V. Implementation of the University Health Sciences Centre of the Negev: Difficulties and Resistances

1. Economic and Financial Aspects

Israel's financial crisis poses a problem in 1975 for the University to remain financially secure and also to strive towards the attainment of academic and technological excellence. As the Ben Gurion University is the smallest and youngest Israeli university, it faces numerous hardships such as:

i) Government allocations are its principal sources of operating income.

ii) It is located in what is still considered an underdeveloped region and has to rely on a high number of external teachers commuting to give lectures. This is costly and deprives the university of the use of the full-time presence of teachers in the city, and their participation in the academic community.

iii) The infrastructure is too weak for the university to sit back and wait for better times to come. Facing drastic cuts in budgetary requests for equipment, the university risks a standstill. It must continue as a developing institution. There is always the danger of losing good graduate students from the university and the Negev region.

The budget for the Faculty of Health Sciences was a mere IL 2,650,000 (US $ 440,000) in 1974/75. The clinical budget was supplied by Kupat Holim and the Ministry of Health. Funds for research, equipment, books and operational expenses came from outside sources. The basic teaching equipment (US $ 100,000) came from the university equipment budget ; other vital equipment was lent by the Hebrew University Medical School. Scientific equipment for clinical research laboratories was provided with some difficulty due to national economic crisis by Kupat Holim.

2. Psycho-sociological Aspects: Changes in Attitude

i) On the part of the administration and public authorities

There is a genuine commitment and willingness to collaborate with the University Centre for Health Sciences to improve health care services in the Negev region.

ii) On the part of teachers

The teachers are committed to the new approach and enthusiasm still runs high. A small group of competent scientists and clinicians, who are completely committed to the philosophy of the medical school, has contributed to the continuing interest of the faculty as a whole. Workshops, held at regular intervals for the training and preparation of teachers, also play a vital part in maintaining ongoing understanding and interest on the part of teachers.

As can be expected in such an endeavour, here and there, small groups of established clinicians are rather sceptical about the new concepts of health delivery and education. Such opposition is certainly legitimate and makes our work only the more exciting and challenging.

iii) On the part of students

Students were enthusiastic about the clinical programme from the outset. They see this part of the curriculum as complementing their studies in the basic sciences. One reason for the continuing enthusiasm beyond the initial weeks, was the delineation of the instructional objectives for the entire academic year. The student did not merely wear a white coat and trail after the physician; rather he was expected to acquire specific skills in each of the clinical settings. The Centre is continually promoting student participation in all fields of work and planning.

iv) On the part of health care teams

Lack of co-ordination amongst the various health delivery services is the major handicap in Israeli medicine. There is still a long way to go in order to uproot the deeply embedded system which allows "feudalism" to reign within the hospital and among the different agencies of health delivery. Professional and sometimes personal ambitions and traditions are at stake. In many cases regulations in one agency are in complete opposition to those in the other agency (e. g. Ministry of Health maintains health teams who work a continuous day, while Kupat Holim employees work staggered hours). Financial and political factors, upon which we still have little control, also serve to delay or impede the way to integration.

In spite of all obstacles, there is a definite move towards the objectives. A Regional Committee for Health Services was set up under the chairmanship of Professor M. Prywes, Dean of the Faculty of Health Sciences and Regional Director for Health Services. Within this structure the heads of the regional health services convene at regular intervals. The committee provides a convenient vehicle for the exchange of information and ideas. The formation of divisions under divisional chairmen has also been devised and, though not yet functioning as ideally outlined, the principles are coming to be accepted, and the term "chairman" is beginning to become part of the semantics of staff.

v) On the part of the population

It is too early at this stage of the experiment to measure the changes in the attitude of the population at large. There are, however, certain improvements which the public has sustained without it having become aware of it. Such an example is in Maternal-Child Welfare, where Kupat Holim and the Ministry of Health services have combined, thereby avoiding duplication and easing the stress on this particular section of the public.

3. Institutional Aspects

Consumer representation is important and community involvement in the development of the Centre is manifest in the existence of a public committee of 50 representatives of local and regional personalities in the Negev, including mayors, teachers, local government, women's organisations, youth groups, local industry, kibbutzim, etc.

This committee aims at deepening the health consciousness of the local population; to channel the community demands for changes and improvements in health care delivery and possibly raise funds for the Centre to organise volunteer services for the sick, old and chronically ill.

VI. General Observations

The final success of the experiment under way at the Centre will be judged at the termination of the first class of medical students in five or six years' time, when they will be exposed to outside influence in the various health institutions into which they will be absorbed. Within the next six years, it is incumbent upon the Centre to condition the recipient institutions in such a way as to ensure that the principles and conceptions of the experiment will find fertile ground upon which to flourish. This will be the true measure of our success.

In order to prepare teachers, and acquaint them with the concepts of the innovative curriculum, workshops are held at regular intervals. Three such workshops have already been held with great success, and others are being planned for the near future. The workshops serve to provide deeper insight and understandings of the clinical and basic science curriculum, and elaborate objectives.

It is still difficult to evaluate objectively the activities and accomplishments of the entire project, after a comparatively short period of less than two years. We have had the advantage of utilizing the services of outstanding foreign medical scientists and teachers, who have visited the Centre as foreign visiting consultants. Their contribution to our experiment has been invaluable in guiding us along definite lines of action in the various fields of their expertise.

VII. List of References

These documents are available in summary form on request from the CERI Secretariat, OECD, Paris, CERI/CR/75.11, Addendum 2.

A. Graduate School of Medical Economics, Health and Welfare Administration.

B. First Year Cliniculum Curriculum 1974/75.

C. Agreement between Ben Gurion University and the Sick Fund of the General Federation of Labour in Israel.

D. Project Design for: Project to Develop Models for Comprehensive Delivery of Health and Welfare Services - Revised draft of proposal to Malben/ADJC, and
Proposal for Evaluation Program for Medical Services in the Negev Region.

E. Master Plan for Negev Mental Health Services.

F. Case Study - Student Selection in the School of Medicine, submitted by Prof. A. Antonovsky, Chairman of Admissions Committee.

G. Report submitted to Prof. Ascher Segall, Associate Dean and Head of Curriculum Planning and Development Unit.

H. Harvard-Ben Gurion Collaborative Projects in Health Manpower Development.

I. Development Plan for the Faculty of Health Sciences.

THE MAASTRICHT FACULTY OF MEDICINE THE NETHERLANDS

Dean: H. A. Tiddens

PARTICULARS OF PARENT UNIVERSITY

Name	:	State University of Limburg
Date of creation	:	September 1974
Number of students	:	100
Number of teachers	:	80
Institutional structure	:	1. Faculty of Medicine 2. General Faculty (development of new educational programme).

I. Main Objectives of the Experiment

1. To improve health care in the region by an active participation in every aspect of health care on a broad scale.

2. To create an integrated structure consisting of a Regional Medical Centre (MRC) and the University of Maastricht's Faculty of Medicine (MFM).

3. To improve regional health education and health care by providing opportunities for training and research.

II. The Education System of the Experiment

Date of creation	:	September 1974
Number of students	:	100 (1975/1976)
Number of teachers	:	about 80

1. Institutional Structure

i) Name of school: Faculty of Medicine

Date of creation : September 1974

Number of students : 100 (1975/1976)

Number of teachers : about 80

Duration of studies : 6 years

ii) Name of school: General Faculty

Date of creation :

Number of students :

Number of teachers :

Duration of studies :

2. Co-ordination of the Education System

i) Within the experiment

The co-ordination of the education system is done by the education committee under responsibility of the faculty board.

ii) Between the experiment and the university

The University is still in the process of creation.

3. Practical Training

Early clinical experience is gained in university hospitals. In other community settings: with the support of the Regional Medical Centre, students are able to become familiar with the sphere of activities in regional health care from the beginning of their studies (visits to general practitioner during the first year).

4. Other possible Characteristics of the Education System of the Experiment

- Problem oriented approach (self-study-based),
- working in small groups,
- formative evaluation,
- special attention to the attitudinal development of the students.

III. The Health Care System of the "Region"

1. "Regional" Data

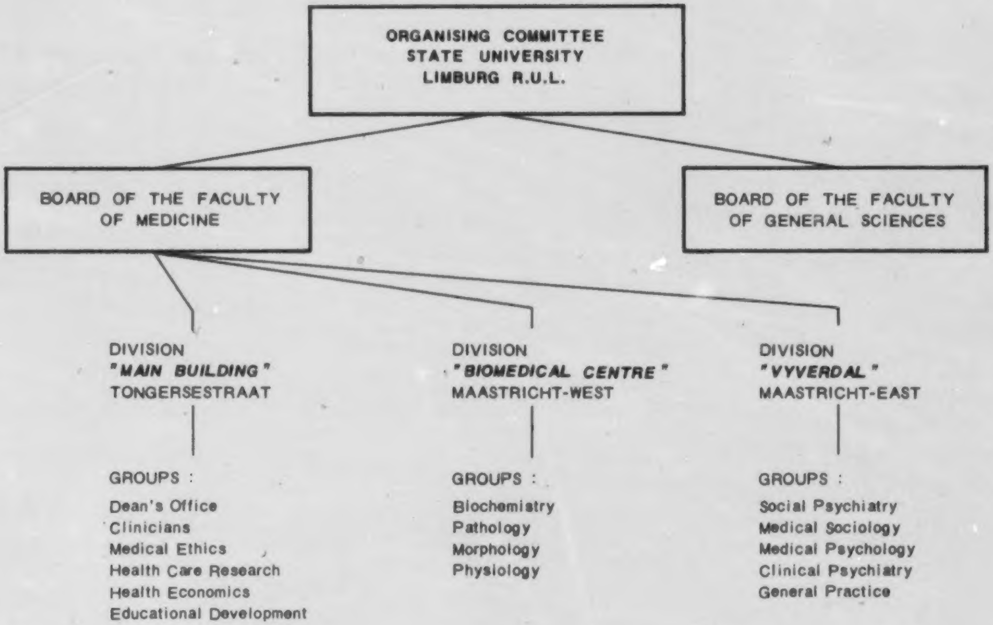
i) Geographical

Maastricht is situated in the centre of Southern Limburg. The town covers an area of approximately 15,000 acres and is situated on

Table 1

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE OF THE MAASTRICHT FACULTY OF MEDICINE

(September 1975)


ORGANISING COMMITTEE
STATE UNIVERSITY
LIMBURG R.U.L.
BOARD OF THE FACULTY OF MEDICINE
BOARD OF THE FACULTY OF GENERAL SCIENCES
DIVISION
"MAIN BUILDING"
TONGERSESTRAAT
DIVISION
"BIOMEDICAL CENTRE"
MAASTRICHT-WEST
DIVISION
"VYVERDAL"
MAASTRICHT-EAST
GROUPS :
Dean's Office
Clinicians
Medical Ethics
Health Care Research
Health Economics
Educational Development
GROUPS :
Biochemistry
Pathology
Morphology
Physiology
GROUPS :
Social Psychiatry
Medical Sociology
Medical Psychology
Clinical Psychiatry
General Practice

the River Maas and the Juliana canal. Maastricht has excellent connections with other parts of the Netherlands and with the adjoining countries.

ii) Demographic

The population served by the experiment consists of 700,000 inhabitants living in Southern Limburg. Maastricht has a population of 160,000 inhabitants. It is situated in the heart of an area which, with 43 million people living within a radius of 200 km, is one of the most populous in the world.

iii) Socio-economic and political

The standard of living is high and the training and education of the population of Maastricht are tuned to the needs typical of life in an industrial community.

2. Data concerning the "Regional" Health Care System

i) Number of private, public hospitals, clinics, health care centres (non-university)

There are 6 regional hospitals:
Annadel Hospital, Maastricht
Barbara Hospital, Geleen
De Goddelijke Voorzienigheid, Sittard
De Wever Hospital, Heerlen
St. Joseph Hospital, Kerkrade
Gregorius de Grote Hospital, Brunssum

ii) Health Care professionals

Total number of doctors in the region: 700.

3. Co-ordination of the "Regional" Health Care System

i) Co-ordination of the various health care institutions

Establishment of a Regional Medical Centre for Southern Limburg which will promote the regional co-operation in the field of health care in Southern Limburg.

4. Use of "Regional" Health Care Centres as Education Centres. The Role of "Regional" Practitioners as Teachers

The "Regional" health care centres will be used as training centres for the students. All who are working in the field of health care want to participate in the development of the Faculty of Medicine.

IV. Integration of the Health Education and Health Care Systems on a "Regional" Basis

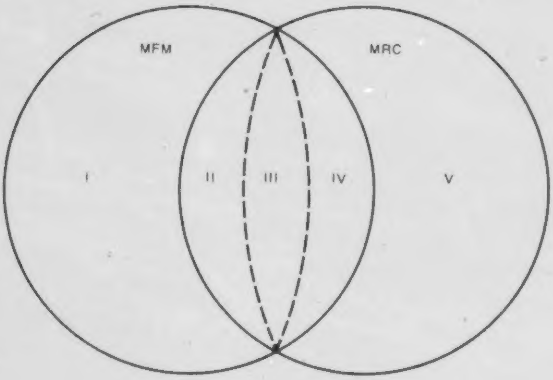
1. Administrative Structure

- The Faculty of Medicine at Maastrich (MFM) has, being the executive body, the full responsibility for a number of university institutions.
- The Regional Medical Centre (MRC), an interim co-ordinating institution which will be an executive body, has the responsibility for a number of institutions working in the field of health care.
- A structure of management will co-ordinate the Faculty of Medicine and the Regional Medical Centre.
- There are also some institutions which are within the responsibility of both the MFM and the MRC.

Figure 1 shows this administrative structure which has been agreed by the State Secretaries for the Ministries of Education and Science and Public Health and Environmental Hygiene.

Figure 1

ADMINISTRATIVE STRUCTURE IN THE INTEGRATION
OF THE HEALTH EDUCATION AND HEALTH CARE SYSTEMS
SOUTH LIMBURG



Note : I. Responsibility of MFM.
II. Responsibility of MFM, consulting MHC.
III. Responsibility of both MFM + MRC.
IV. Responsibility of MRC consulting MFM.
V. Responsibility of MRC.

V. Implementation of the Faculty of Medicine at Maastricht

Psycho-Sociological Aspects: Changes in attitude

i) On the part of the teachers

Teachers, who come from other traditional universities, have to adapt their attitude towards new ideas about education. Most of them are very enthusiastic, some of them are a little bit reluctant.

ii) On the part of the students

The students are great defenders of the new educational system.

iii) On the part of health care teams

In the beginning, the health care teams showed some hesitation towards the experiment but after the clinical one month traineeship of the students they are very willing to support the experiment.

iv) On the part of the population

The population is very proud that, at last, a university will be founded in their region.

THE SCHOOL OF MEDICINE AT TROMSØ NORWAY

Dean: A. Nordøy

PARTICULARS OF PARENT UNIVERSITY

Name : University of Tromsø

Date of creation : 1968 (parliament decision to establish a university)
1972 Opening

Number of students : 1,500 (1975)

Number of teachers : 190

Institutional structure:
1. Institute of Social Sciences
2. Institute of Humanities
3. Institute of Biology and Geology
4. Institute of Sciences
5. Institute of Fisheries
6. School of Medicine (The Medical Institutes).

I. Main Objectives of the Experiment

1. To improve the primary health services for people living in northern Norway and thus to contribute to the standard of living in this area.

2. To establish good communication between the local hospitals, the university hospitals and the primary health centres.

3. To construct a modern and efficient health service system in co-ordination with a modern and society oriented university curriculum for medical students.

4. To give education for medical students with complete integration of medical biology, clinical medicine and society medicine throughout the six years of study.

5. To incorporate allied health personnel schools as an integrated part of the University.

6. To increase the possibilities for higher education in northern Norway and thereby inhibit an increasing outflow of young people from the north.

7. To establish basic and applied research.

II. The Education System of the Experiment

Date of creation : September 1973

Number of students : medical students: 120, 40 each year; other students: 70 each year

Number of teachers : 75 faculty members + 30 part-time members (located in Tromsø, at the other 10 hospitals in northern Norway + in some 20 of the primary health centres in the region)

1. Institutional Structure

At present, the School of Medicine trains general practitioners, specialists, public health nurses and gives courses for one year or more to be used as part of other graduate training.

i) The Institute of Medical Biology

Date of creation : June 1972

Number of teachers : 44

Duration of studies : 6 years

ii) The Institute of Clinical Medicine

Date of creation : June 1972

Number of teachers : 16

Duration of studies : 6 years

iii) The Institute of Society Medicine

Date of creation : June 1973

Number of teachers : 13

Duration of studies : 6 years

iv) There are also the following allied health professional schools in Tromsø

1. School of Nursing
2. School of Nurses' aids
3. School of Secretaries

} before the creation of the University

4.	**School of research technicians**	initiative of University
5.	**School of Physiochemists**	
6.	**School of X-ray technicians**	
7.	**School of public health nurses**	
8.	**School of physiotherapy**	envisaged for next 2-3 years
9.	**School for teachers in nursing**	
10.	**Specialized nursing school**	

2. Co-ordination of the Education System

i) Within the experiment

There are three medical institutes working together.

There is a one year course for allied professions in "basic medicine", specialist post-graduate training of general practitioners and doctors, and post-graduate training for nurses and other health professions.

ii) Between the experiment and the university

Students from the institute of social sciences will work together with those from the School of Medicine in integrated introductionary clinics.

Medical students and students from the institute of social sciences have common courses in social sciences during their first year at school.

Students from the institutes of biology and sciences are given courses in physiology, biochemistry, cellbiology.

At the School of Medicine there is a one-year course in "Basic Medicine" for 40 non-medical, professional people working in the health services and for students from other faculties planning to work in areas of the society where medical knowledge is highly warranted. An education council for health professions including representatives from the various health professions and the various schools including the School of Medicine and the Institute of Social Sciences at the University is responsible for co-ordinating and supervising the general programme of Health Education.

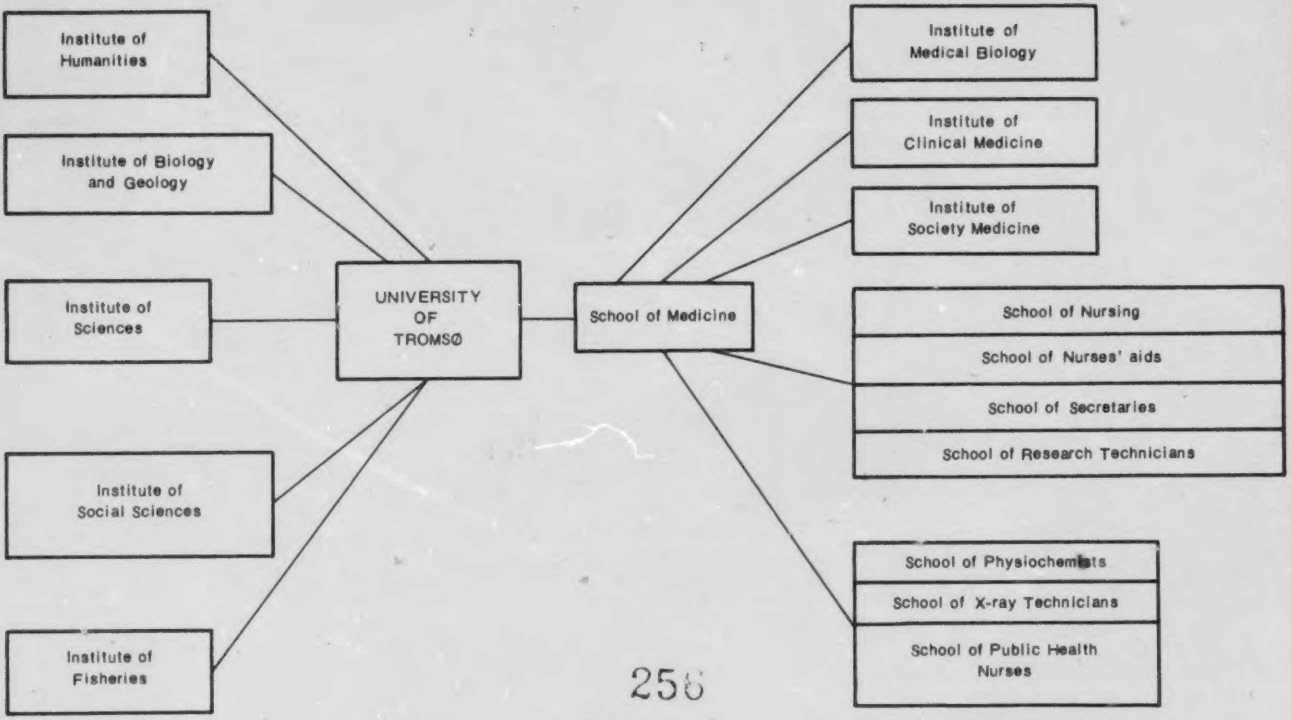
3. Common Theory Courses - Common Core

Wherever possible it is intended to give common courses for medical students and students in other health subjects, i. e. common courses in social sciences in the first year at the University.

The one-year common course in basic medicine for 40 students includes medical history, epidemiology and statistics, medical biology, psychiatry, social sciences and a wide introduction to clinical medicine with emphasis on chronic diseases. The students will also learn about laws involved in health care, preventive medicine and the relation between the social sciences and medicine.

Table 1

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE, SCHOOL OF MEDICINE, TROMSØ


Institute of Humanities
Institute of Biology and Geology
Institute of Sciences
Institute of Social Sciences
Institute of Fisheries
UNIVERSITY OF TROMSØ
School of Medicine
Institute of Medical Biology
Institute of Clinical Medicine
Institute of Society Medicine
School of Nursing
School of Nurses' aids
School of Secretaries
School of Research Technicians
School of Physiochemists
School of X-ray Technicians
School of Public Health Nurses

There will be integration between 3 types of education:

- preclinical and clinical medicine,
- university medicine and primary health care,
- medicine and social sciences;

with emphasis on early patient contact, elective periods and integrated organ courses.

4. Practical Training

i) Early clinical experience

- In university hospitals: at the University Clinic during the first 4 years of their studies.

- In other community settings: before admittance to the medical school in Tromsø all medical students must have experienced 6 weeks' work at any sort of health institution (e. g. hospitals and old peoples homes). Furthermore, most students gather points in addition to their school points by working for longer periods in similar institutions.

During their 6 years of studies at the medical school of Tromsø the students at the end of their fourth year leave the University Clinic to work for 4 months at a small local hospital that has a medical department, surgical department and X-ray department. They will then spend another 2 months working with doctors in primary health care. In addition, the students are exposed for short periods to primary health centres in the Tromsø area during their first four years of medical school.

Students are exposed to the ordinary problems of clinical medicine during their first year. This is arranged in integrated clinics with patients having common illnesses like pneumonia, coronary infarction, dyspeptic ulcers, depressions, etc.

ii) Team work in clinical experience

Training for team work is emphasized. Medical students work together with allied health professionals forming a multiprofessional team.

5. Transition from Short Cycles of Health Education to Long Cycles (horizontal and vertical mobility)

The competition to enter the medical school is very strong. Although nurses are given additional points to their school points from the gymnasium, they still have to follow a complete 6-year programme to be certified as medical doctors.

6. Continuing Education for Health Professional Personnel

i) Post-graduate training of

- general practitioners + doctors in specialists subjects,
- nurses and other health professionals in the region.

ii) training courses for health personnel in primary health care.

iii) 1 year course in basic medicine for 40 professional people working at the periphery of the health service, but without previous training for it.

7. Other Possible Characteristics of the Education System of the Experiment

We consider it a major aim to use health personnel in local hospitals and primary health care for the training of health students in order to obtain "learning by teaching".

III. The Health Care System of the "Region" served by the Experiment

1. Brief Description of the National Health Care System

The Department of Social Affairs together with the Directorate of Health are responsible for the National Health Care System (see Figure 1). Each county has its own health authorities in charge of the local health care system. The university hospitals are integrated in the local health care system as regional hospitals for 3-6 counties with partial support from the government. All Norwegians are members of the National Health Security system.

2. "Regional" Data

i) Geographical

Northern Norway is a wide sub-artic area. Three-quarters of it is located north of the arctic circle and includes three counties. The main city in northern Norway is Tromsø where the experiment is being carried out. The climatic conditions are sub-arctic with a long winter (2 months without sun above the horizon).

ii) Demographic

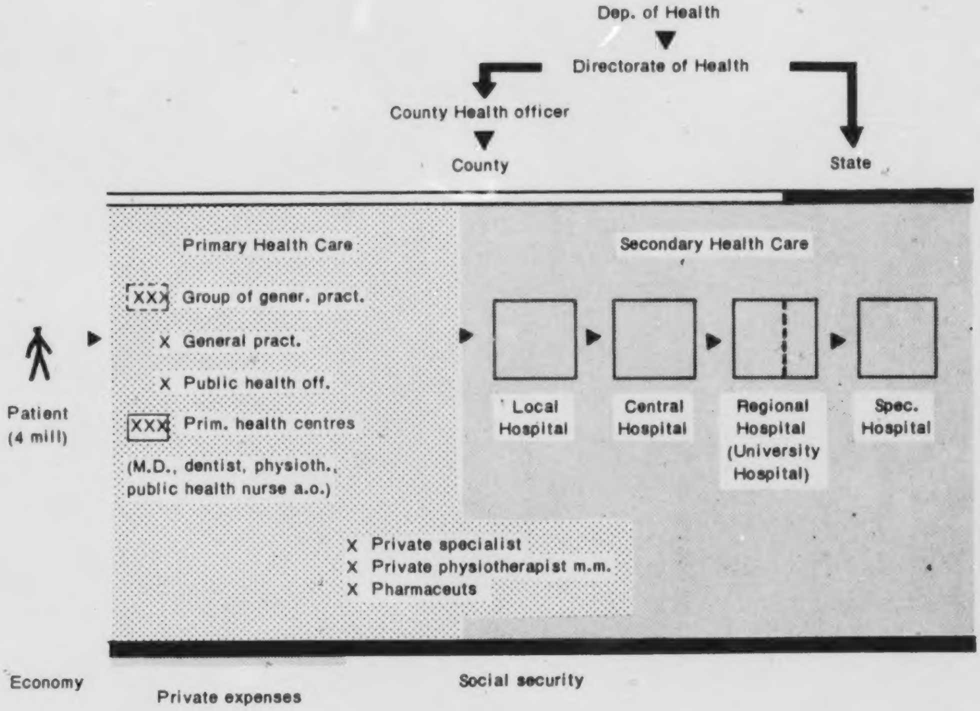
Tromsø has a population of 44,000. The total population served by the experiment is 500,000 living in northern Norway. The city area is one of the largest in the world with the main concentration of people in its centre.

iii) Socio-economic and political

The environment is both urban and rural. The people are mainly of middle socio-economic class.

Figure 1

THE HEALTH CARE SYSTEM IN NORWAY


Dep. of Health
Directorate of Health
County Health officer
County
State
Primary Health Care
XXX Group of gener. pract.
X General pract.
X Public health off.
XXX Prim. health centres
(M.D., dentist, physioth., public health nurse a.o.)
Secondary Health Care
Local Hospital
Central Hospital
Regional Hospital (University Hospital)
Spec. Hospital
X Private specialist
X Private physiotherapist m.m.
X Pharmaceuts
Patient (4 mill)
Economy
Private expenses
Social security

3. Data concerning the "Regional" Health Care System

i) Number of university teaching hospitals

The University Hospitals which are the only hospitals in the city comprise the Regional Hospital (550 beds) and a mental hospital (600 beds).

ii) Number of private or public hospitals, clinics, health care centres (non-university)

There are 10 local hospitals in the region, 4 primary health care centres in the Tromsø city area, 13 additional health centres and ~~100~~ public health doctors in the region.

iii) Health Care professionals

In addition to health personnel in the institutions, there are 120 public health doctors, 150 public health nurses, 100 social workers and others.

4. Co-ordination of the "Regional" Health care System

Good communication exists between local hospitals, the university hospitals and primary health centres. Each of the three counties, with its chief public health officer and county health council, is responsible for its own health service.

5. Use of "Regional" Health Care Centres as Education Centres. The Role of "Regional" Practitioners as Teachers

Local hospitals and primary health care centres will provide clinical training for medical students and public health nurses. There will be involvement of practitioners, nurses, dieticians and other health professionals in teaching. Specialized practitioners will give courses in the different hospitals and act as consultants. Two highly qualified MDs from each local hospital will become part of the university faculty staff. Leaders of selected health centres will also be members of this staff.

IV. Integration of the Health Education and Health Care Systems on a "Regional" Basis

1. Administrative Structure

The School of Medicine is in open communication with the relevant committees in Parliament, the government and the Departments of Education and Health. The Faculty of Medicine has been fully supported by the local authorities.

2. Participation of the School of Medicine at Tromsø

i) In the analysis of the needs of health personnel and the satisfaction of these needs

The School of Medicine offers continuing education for all health professionals and in this way improves the quality of health services in the region. The area will thus be supported with well trained health personnel in different and relevant categories of health care. Local hospitals and health care institutions will all be supplied with well educated health personnel.

ii) In the analysis of the needs of the health care infrastructure

The School of Medicine hopes to participate in the construction of a modern and efficient regional health service system with high quality care in all its health institutions.

iii) In a policy of prevention

The 1-year course in basic medicine includes seminars on preventive care. Emphasis is placed on preventive medicine in the training of all health students and the professor of preventive medicine is responsible for the determination of the training.

3. Research Policy of the School of Medicine at Tromsø according to the above-mentioned Needs

Medical research should include research in delivery of primary health care. The Institute for Society Medicine will try to solve these problems for the smaller areas and for the region.

V. Implementation of the School of Medicine at Tromsø: Difficulties and Resistances

1. Economic and Financial Aspects

In Norway as in the rest of the western world the recent economic development has influenced progress in the building of the new University. The number of new positions in the School has been drastically reduced, even if Tromsø is still on the top of the priority list among the universities.

The establishment of a University in a small society made the pressure on housing, schools, kindergartens and other services very heavy.

2. Psycho-Sociological Aspects: Changes in Attitude

i) On the part of the administration and public authorities

There is a close and good connection with the public, the local authorities and the health personnel in the region and a very positive and open communication with the relevant committees of the Parliament, the government and the Departments of Education and Health. However, the present dissociation of responsibilities between the Departments of Education and Health has made a complete integration between health care and health education difficult.

ii) On the part of teachers

The initial enthusiasm and fighting spirit among the Faculty members still persist, and the service, the teaching and the research projects seem to be making good progress. However, the next 5-10 years, before the University has trained her own new teachers, may be critical. Within the Faculty and the university there is still considerable resistance to complete integration of all types of health student within the university structure.

iii) On the part of students

The students are highly motivated. However, again we find the same resistance towards integration of all kinds of health student (public health nurses and others) into the university structure.

3. Institutional Aspects

To establish a faculty of medicine with incorporation of allied health personnel schools as an integrated part of the university has met heavy resistance, both within the Faculty and the University, and partially also in the Department of Education. The process in the direction of a University of Health within the University has, therefore, to move somewhat slowly.

THE UNIVERSITY OF HACETTEPE
TURKEY

President: D. Karan

PARTICULARS OF PARENT UNIVERSITY

Name : University of Hacettepe

Date of creation : Chartered 1967

Number of students : 8,038 (1974-75)

Number of teachers : 1,678

Institutional structure:

1. Faculty of Graduate Studies (for Sciences, Engineering and Social Sciences)
2. Faculty of Medicine
3. Faculty of Sciences
4. Faculty of Engineering
5. Faculty of Chemistry
6. Faculty of Social and Administrative Sciences
7. Faculty of Pharmacy
8. Faculty of Health Sciences (faculty of Graduate Studies for Health Sciences)
9. Faculty of Dentistry
10. School of Home Economics
11. School of Physical Therapy and Rehabilitation
12. School of Nursing

plus
Gevher Nesibe Faculty of Medicine
Eskisehir Faculty of Medicine
Samsun Faculty of Medicine
Sivas Faculty of Medicine
Trabzon Faculty of Medicine

I. Main Objectives of the Experiment

1. To turn out educated health practitioners familiar with basic disciplines and the relationships between them through a specialized university concerned with health.

2. To establish an integrated medical education system.

II. The Education of the Experiment

Date of creation : 1967

Number of students : (1974-1975) 8,038

Number of teachers : 1,678

1. Institutional Structure

i) Faculty of Medicine

Date of creation : 1963

Number of students : 1794 (1974-1975)

Number of teachers : 340

Duration of studies : 6 years

The Faculty of Medicine is constituted of the Divisions of Basic Medical Sciences and Applied Medical Sciences. Clinical and Basic Medical Science Departments and research units are attached to these divisions.

ii) Faculty of Dentistry

Date of creation : 1963

Number of students : 292

Number of teachers : 45

Duration of studies : 5 years

iii) Faculty of Science (related to Biology)

Date of creation : 1967

Number of students : 784

Number of teachers : 87

Duration of studies : 4 years

Mathematics
Chemistry
Physics
Professional
Statistics
} Institutes

iv) Faculty of Pharmacy (related to Biology)

Date of creation : 1971

Number of students : 311

Number of teachers : 35

Duration of studies : 4 years

Institutes of: Biochemistry, Physiology, Anatomy, Pharmacology, Clinical and Professional.

v) Faculty of Health Sciences

Date of creation : 1967

Number of students : 642

Number of teachers : 188

Duration of studies : Varies according to degree requirements

Faculty of graduate Studies for Medical and Health Sciences.

vi) Faculty of Engineering (related to Biology)

Date of creation :

Number of students : 642

Number of teachers : 65

Duration of studies : 4 years

Institutes of: Chemistry, Mathematics, Physics and Professional.

vii) Faculty of Social and Administrative Sciences (related to Economics and Management)

Date of creation :

Number of students : 1,623

Number of teachers : 170

Duration of studies : 4 years

Institutes of: Humanities, Social Sciences.

viii) Faculty of Graduate Studies

Date of creation : 1967

Number of students : 620

Number of teachers : 200

Duration of studies : Varies according to degree requirements.

ix) Faculty of Chemistry (related to Biology)

Date of creation :

Number of students : 421

Number of teachers : 53

Duration of studies : 4 years

Institutes of: Mathematics, Physics and Professional.

x) School of Home Economics

Date of creation : 1962

Number of students : 326

Number of teachers : 20

Duration of studies : 4 years

xi) School of Physical Therapy and Rehabilitation

Date of creation : 1962

Number of students : 178

Number of teachers : 31

Duration of studies : 4 years

xii) School of Nursing

Date of creation : 1961

Number of students : 235

Number of teachers : 24

Duration of studies : 4 years.

2. Co-ordination of the Education System

The whole university is the experiment and all faculties work in close collaboration with one another. There are three Permanent Interdisciplinary Committees (see Figure 1)

- Cell biology committee,
- Cellular and tissue injury committee,
- Community medicine committee.

The teaching system is an integrated one avoiding repetition and offering dialogue between various schools. An integrated teaching approach to medical and health education is one of the outstanding features of the Hacettepe system. Teaching in the basic medical sciences and clinical sciences is integrated. Students entering the University are offered programmes in medicine, dentistry, nursing, pharmacy, nutrition, etc. There is a close co-operation among the various faculties and schools for the development of a co-ordinated curriculum.

Table I - 1

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE :

ORGANISATION OF MEDICAL AND HEALTH SCIENCES AT HACETTEPE UNIVERSITY

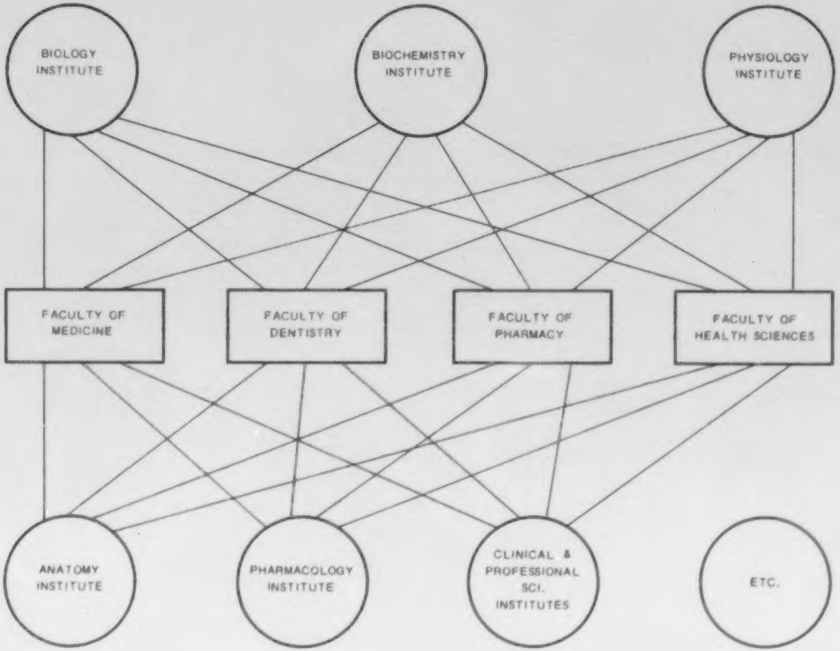

BIOLOGY INSTITUTE
BIOCHEMISTRY INSTITUTE
PHYSIOLOGY INSTITUTE
FACULTY OF MEDICINE
FACULTY OF DENTISTRY
FACULTY OF PHARMACY
FACULTY OF HEALTH SCIENCES
ANATOMY INSTITUTE
PHARMACOLOGY INSTITUTE
CLINICAL & PROFESSIONAL SCI. INSTITUTES
ETC.

Table I - 2

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE

ORGANISATION OF TECHNICAL SCIENCES AT HACETTEPE UNIVERSITY

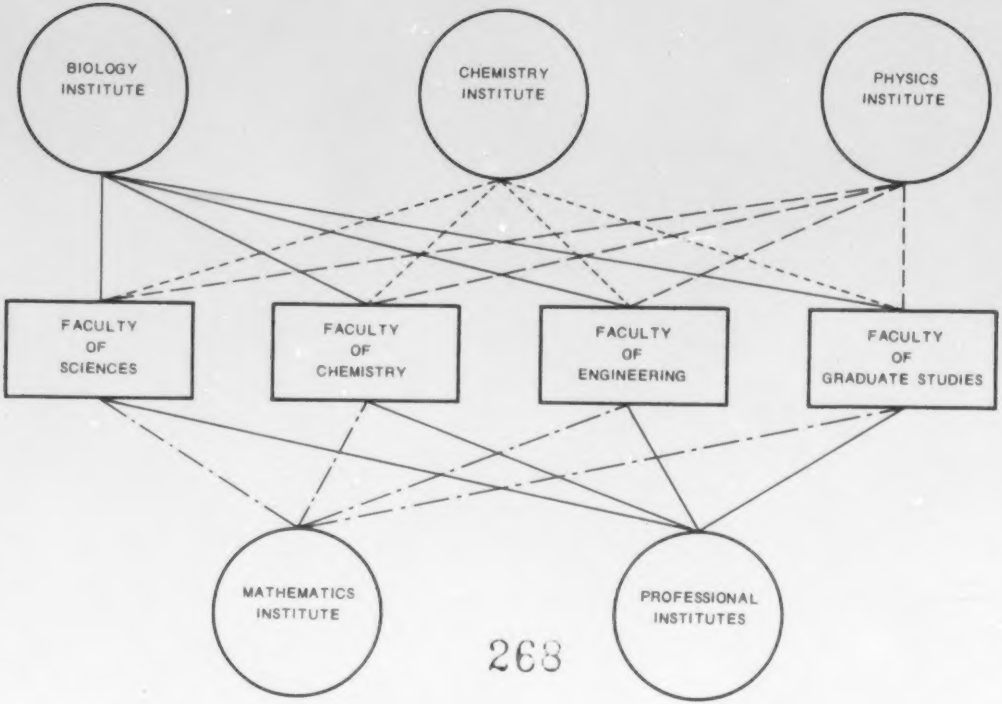
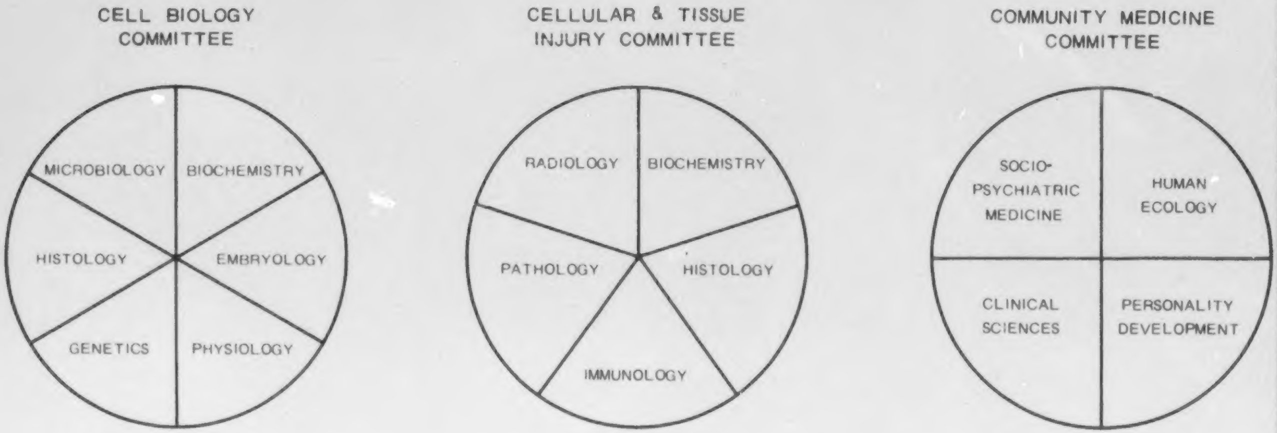

BIOLOGY INSTITUTE
CHEMISTRY INSTITUTE
PHYSICS INSTITUTE
FACULTY OF SCIENCES
FACULTY OF CHEMISTRY
FACULTY OF ENGINEERING
FACULTY OF GRADUATE STUDIES
MATHEMATICS INSTITUTE
PROFESSIONAL INSTITUTES

Figure 1

PERMANENT INTERDISCIPLINARY COMMITTEES AT HACETTEPE UNIVERSITY


CELL BIOLOGY COMMITTEE
MICROBIOLOGY
BIOCHEMISTRY
HISTOLOGY
EMBRYOLOGY
GENETICS
PHYSIOLOGY
CELLULAR & TISSUE INJURY COMMITTEE
RADIOLOGY
BIOCHEMISTRY
PATHOLOGY
HISTOLOGY
IMMUNOLOGY
COMMUNITY MEDICINE COMMITTEE
SOCIO-PSYCHIATRIC MEDICINE
HUMAN ECOLOGY
CLINICAL SCIENCES
PERSONALITY DEVELOPMENT

3. Common Theory Courses - Common Core

In all academic activities emphasis is placed on the role of the team. Students do not learn their subjects in an isolated or segregated fashion. Progress and development in one science stimulates progress and development in each of the others. The teaching programme has been designed to facilitate integrated learning.

During the first year in the Faculty of Medicine, basic sciences such as chemistry, physics, mathematics, molecular biology, social sciences are integrated with each other and with community medicine.

During the second year, 14 hours of theoretical teaching every week are devoted to the introduction to clinical sciences and community medicine (2 hours of lectures and 2 hours' discussion groups).

During the third year, students have courses in basic medical sciences such as microbiology, pharmacology and pathology, again in an integrated fashion. Teachers from the various institutes teach these subjects.

Teaching methods are related to the new curriculum. There is a strong reliance on the tutorial system, small group teaching and mixed laboratories. There is little reliance on textbooks or formal lectures.

4. Practical Training

i) Early clinical experience

In University hospitals: Beginning in the fourth year and continuing through the fifth year, students serve as clerks rotating through various clinical departments. They also have to take some responsibility for night duties. In his sixth year the student is junior intern or house physician under the supervision of the senior house staff and teaching staff.

In other community settings: Each second year medical student is assigned to a family in which there is either a pregnant woman or a baby of less than one year of age. The student is introduced to the family as its "student doctor" and he takes part in the periodical medical checks. Under the supervision of the doctor assigned to the family through the maternal and child health unit of the medical faculty the student gradually assumes increasing responsibility. In this way, from the inception of his medical education, the student has practical experience and training in observing and recording all pertinent information about the patient.

During the fifth year each student is assigned for a certain period to live in a village where he serves as a rural health intern and makes home calls.

ii) Team work in clinical experience

The medical student working with nurses and students of other health science programmes during his clinical training finds an opportunity of practising team work for the benefit of the community (4th, 5th and 6th years).

5. Transition from Short Cycles of Health Education to Long Cycles (horizontal and vertical mobility)

The same departments teach basic medical sciences to all medical and health sciences students. Therefore at the end of the first year, in rare cases, it is possible for the bright students to transfer from one programme to another. All health sciences graduates can study for higher qualifications (e. g. M. S. and Ph. D.) in the basic medical sciences by taking courses at the Graduate Faculty of Health Sciences.

6. Continuing Education for Health Professional Personnel

Graduates can continue their studies at the Faculty of Graduate Studies or at the Faculty of Health Sciences.

III. The Health Care System of the "Region" Served by the Experiment

1. Brief description of the National State Health Care System

The health care system in Turkey is gradually being nationalized.

2. "Regional" Data

i) Geographical

Hacettepe University is situated in the city of Ankara, Turkey.

ii) Demographic

The area served by the experiment is Ankara, which has a population of one and a half million inhabitants.

iii) Socio-economic and political

The area contains urban, suburban and rural environments. All social classes are served.

3. Data concerning the "Regional" Health Care System

i) Number of university teaching hospitals

Four, with approximately three thousand beds.

ii) Number of private or public hospitals, clinics, health care centres (non-university)

23 hospitals. Approximately nine thousand beds.

4. Co-ordination of the "Regional" Health Care System

i) Co-ordination of the various health care institutions

In Turkey, the Ministry of Health co-ordinates most of the Health Care Institutions, but Medical School Hospitals, Military Hospitals, Social Security Hospitals and Private Hospitals are run by their own administrative authorities. In Etimesut and Cubuk rural health districts all medical services are provided and run by the Hacettepe University as an experimental scheme.

ii) Co-ordination of the various "regional" health organisations

There are several governmental health insurance systems covering many inhabitants of the area, but not all.

5. Use of "Regional" Health Care Centres as Education Centres. The Role of "Regional" Practitioners as Teachers

14 health centres in 14 rural villages with a total population of 100,000 are used for providing internships for students from the Hacettepe University. These centres are staffed by University instructors.

IV. Integration of the Health Education and Health Care Systems on a "Regional" Basis

Administrative Structure

The entire complex of 14 health centres in 14 rural villages providing rural internships plus two 50-bed rural hospitals are staffed by members of the University Medical Faculty. The instructors in this internship programme live in the villages and serve as rural health officers.

None of the University Faculty is engaged in private practice, all are full-time staff at the University. The Hacettepe University Community Rural Health Centre provides liaison between University Medical Education and Community Health Care.

V. Implementation of the University of Hacettepe: Difficulties and Resistances

1. Economic and Financial Aspects

The rector concludes "a university which wishes to establish an integrated medical education system should be prepared to allocate a significantly larger proportion of its budget to medicine than it does at present. This it can do, however, with the realization that it is both reducing the waste of duplication and increasing the value of medical education to the student".

2. Psycho-Sociological Aspects: Changes in Attitude

i) On the part of the administration and public authorities

Positive changes.

ii) On the part of teachers

Highly motivated.

iii) On the part of students

Highly motivated.

iv) On the part of health care teams

Positive changes.

v) On the part of the population

Positive changes.

3. Institutional Aspects

The experiment has been very successful and other universities in Turkey try to implement the same system.

THE UNIVERSITY OF SOUTHAMPTON
MEDICAL SCHOOL
UNITED KINGDOM

Dean: E. D. Acheson

PARTICULARS OF PARENT UNIVERSITY

Name : The University of Southampton

Date of creation : - as a University College associated with the University of London - 1902
- as an independent University - 1952

Number of students : 4,600

Number of teachers : 650

Institutional structure: The business of the University is conducted by a Council and Senate. The following are the subordinate Faculties:

1. Faculty of Arts
2. Faculty of Science
3. Faculty of Engineering and Applied Science
4. Faculty of Social Sciences
5. Faculty of Law
6. Faculty of Medicine
7. Faculty of Education

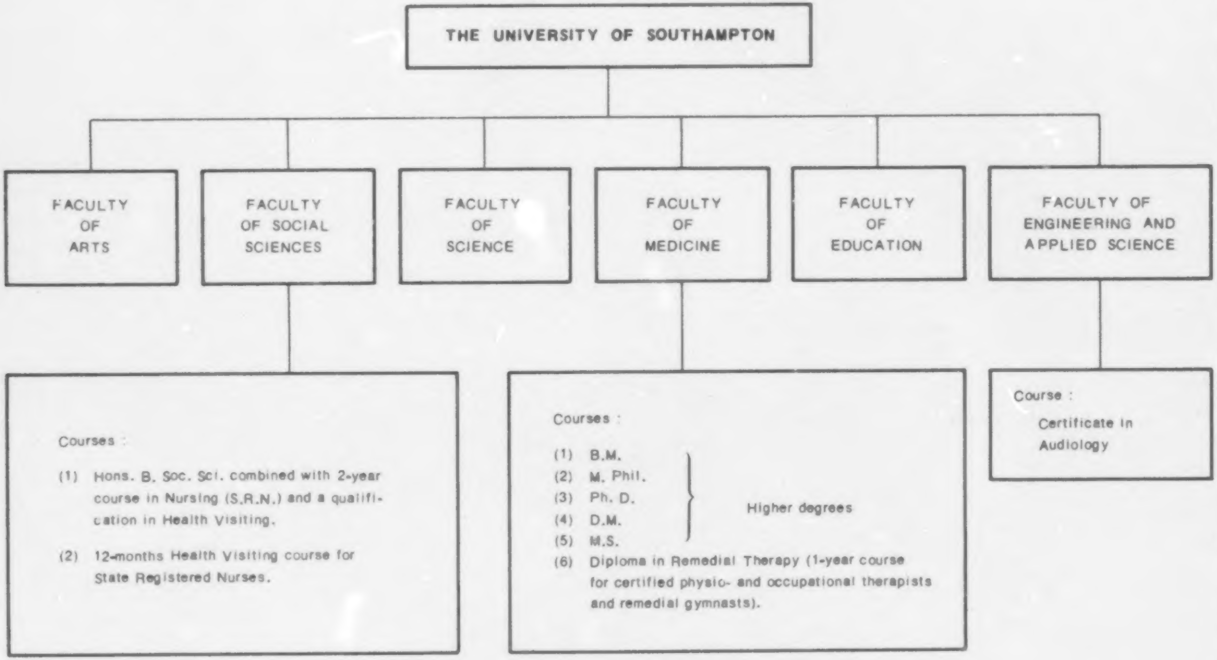
I. Main Objectives of the Experiment

1. To improve, by educational means, the standard of medical care in the society which supports the school, by providing:
   - a course for undergraduate medical students which balances teaching in the basic and behavioural sciences with clinical instruction and experience inside and outside hospital,
   - jointly with other authorities, a centre of teaching resources for continuing education of the health professions in the Wessex Region, and higher specialist training.

Table I

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE OF THE UNIVERSITY OF SOUTHAMPTON

indicating University courses of direct relevance to health care


THE UNIVERSITY OF SOUTHAMPTON
FACULTY OF ARTS
FACULTY OF SOCIAL SCIENCES
FACULTY OF SCIENCE
FACULTY OF MEDICINE
FACULTY OF EDUCATION
FACULTY OF ENGINEERING AND APPLIED SCIENCE

Courses :

(1) Hons. B. Soc. Sci. combined with 2-year course in Nursing (S.R.N.) and a qualification in Health Visiting.

(2) 12-months Health Visiting course for State Registered Nurses.

Courses :

(1) B.M.
(2) M. Phil.
(3) Ph. D.
(4) D.M.
(5) M.S.
} Higher degrees
(6) Diploma in Remedial Therapy (1-year course for certified physio- and occupational therapists and remedial gymnasts).

Course :

Certificate in Audiology

2. To provide a regional organisation centred on Southampton for research in medical science and into the medical needs of society.

3. To co-operate with the National Health Service authorities in the region in the provision of Health Services.

II. The Education System of the Experiment

Date of creation : 1971

Number of students : 400 (October 1975)
650 (projected for October 1979)

Number of teachers : 550 (including 110 full-time academic staff - 230 teachers in Southampton and Wessex region; 200 junior medical staff)

Duration of studies : 5 years plus 1 year of compulsory hospital internship.

1. Institutional Structure

The Medical School prepares to the following degrees: Bachelor of Medicine, Master of Philosophy, Doctor of Medicine and Master of Surgery. In addition, a one-year course leads to a Diploma in Remedial Therapy.

2. Co-ordination of the Education System

i) Within the experiment

The business of the Medical School is conducted by a Faculty Board which is responsible to the Senate and Council of the University for undergraduate medical education, the conduct of the sixth (pre-registration) year; and for the recommendation of the award of the degrees: Bachelor of Medicine, Master of Philosophy, Doctor of Philosophy, Doctor of Medicine, and Master of Surgery. The three features of the organisation of the School which are sufficiently unusual to deserve special mention are as follows:

- the school is organised on a regional basis,
- the academic and clinical service organisations are integrated as far as possible,
- there is no formal departmental structure within the Faculty - staff are grouped in different ways for teaching, research and clinical service respectively.

The principal sub-committees of the Faculty Board are: Finance, Curriculum, Assessment and Examination of Students, Staff-Student Liaison, Higher Degrees, Allocation of Space, Ethics of Research Studies.

There is representation on the Faculty Board of University staff, NHS staff both in Southampton and from the Region, including general practitioners, and students.

As far as undergraduate teaching is concerned co-ordination is achieved and policy formulated by a standing committee, namely the Co-ordinating Sub-committee on the Curriculum, the constitution of which is as follows:

- The Dean of Medicine
- The Assistant Dean
- The clinical Sub-Dean
- The Regional Postgraduate Dean
- The Head of Department or co-ordinating Professor of the following disciplines:
  - . Physiology and Biochemistry
  - . Human Morphology
  - . Community Medicine
  - . Pathology
  - . Surgery
  - . Medicine.

One Clinical Professor, by election from the Professors not included above.

The Head of either the Department of Psychology or the Department of Sociology and Social Administration.

Four members elected by and from the members of the non-professorial staff of the Faculty.

One member elected by and from the members of the NHS staff on the Board of the Faculty.

Four students elected by and from 1st- 2nd- 3rd- and 4th-year students of the Faculty.

This sub-committee recommends to the Faculty Board the structure, content and balance of the course, leaving individual Professors to implement detailed instruction within the agreed course structure.

The Medical School has an important role in postgraduate medical education. The Postgraduate Dean and his Advisers and Clinical Tutors throughout the Region are members of the Faculty Board, and the expenses of the Postgraduate Dean's Salary and office are met by the University. Conversely the Faculty Board has generous representation on the Regional Postgraduate Committee, and many of the staff of the Medical School, both in the basic sciences and clinical fields, are concerned with higher specialist and continuing training.

ii) Co-ordination between the experiment and the University

Teachers from other Faculties in the University work together with staff of the Faculty of Medicine in developing various specialized aspects of the course. In particular, teaching in Physiology and Biochemistry and Sociology is carried out by members of staff of the Faculties of Science and Social Sciences respectively. As in the remainder of the course the structure and balance of this teaching is co-ordinated by the Co-ordinating Sub-committee on the Curriculum courses for health visitors and audiological technicians are run by the Faculties of Social Sciences and Engineering and Applied Sciences. Research in various fields, e. g. medical engineering and medical physics, is carried out jointly by departments in other Faculties and the Faculty of Medicine.

3. Common Theory Courses - Common Core

In the first three years of the 5-year course all medical students cover the basic coursework in the biological and social sciences. Figure 1 shows the structure of the curriculum and the relationship of the various courses.

There are introductory courses in morphology (Cells, Tissues and Systems), physiology and the social sciences (Man, Medicine and Society). Training in general pathology and microbiology takes place early in the course, namely in the first year, in order to permit integrated teaching in relation to the systems of the body to take place in the second year. The bulk of the teaching in physiology and some of the teaching in morphology, pharmacology, pathology and epidemiology is covered by a series of "systems courses" (Respiratory System, Cardiovascular System, etc.) which are multi-disciplinary and run by a co-ordinating Chairman. There are also courses in various single disciplines, e. g. Biochemistry, Regional Anatomy, etc The courses include lectures, seminars, directed reading, and practical work in laboratories. Each course has its own budget administered by the Chairman, to meet the costs of teaching materials, laboratories, etc.

4. Practical Clinical Training

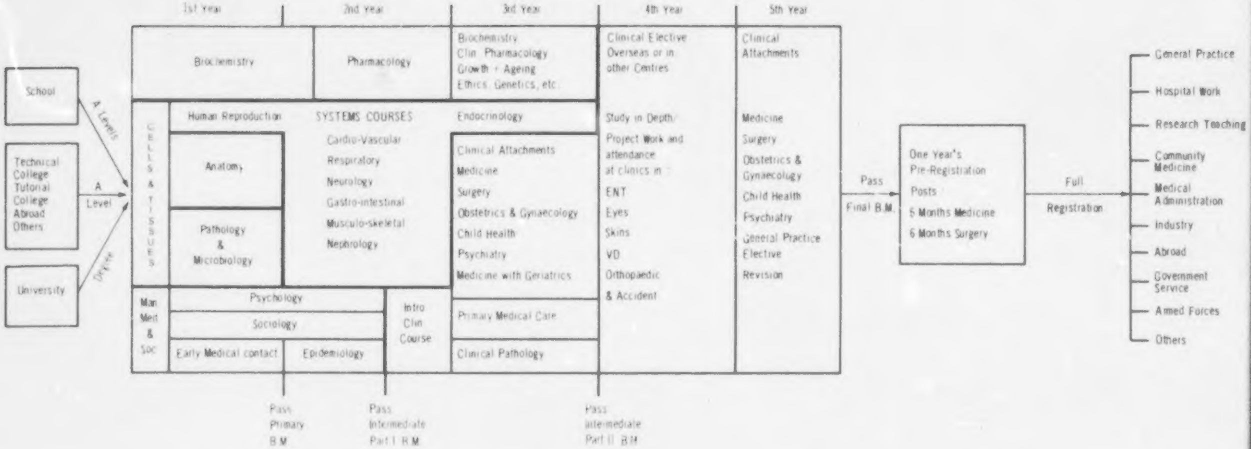
In order to sustain the motivation of the students and increase interest the course attempts as far as possible to integrate practical clinical work with the study of the basic and behavioural sciences. The first contact between student and patient, therefore, takes place early in the first year. A modification of the problem oriented medical record is recommended for student case notes.

First year. Students meet five patients in their homes under the supervision of the family doctor. The patients are selected to demonstrate the effects of chronic physical or mental incapacity on family life and on society. In parallel with the integrated systems course on human reproduction students follow a patient through pregnancy and childbirth.

Second year. Students are introduced to the basic techniques of history taking and physical examination and have practice in the elicitation of physical signs.

Figure 1

PLAN OF THE MEDICAL CURRICULUM


1st Year
2nd Year
3rd Year
4th Year
5th Year
School
Technical College Tutorial College Abroad Others
University
A Levels
A Level
Degree
Biochemistry
Pharmacology
Biochemistry
Clin. Pharmacology
Growth + Ageing
Ethics, Genetics, etc
CELLS & TISSUES
Human Reproduction
SYSTEMS COURSES
Cardio-Vascular
Respiratory
Neurology
Gastro-intestinal
Musculo-skeletal
Nephrology
Endocrinology
Anatomy
Pathology & Microbiology
Clinical Attachments
Medicine
Surgery
Obstetrics & Gynaecology
Child Health
Psychiatry
Medicine with Geriatrics
Man Med & Soc
Psychology
Sociology
Early Medical contact
Epidemiology
Intro Clin Course
Primary Medical Care
Clinical Pathology
Clinical Elective Overseas or in other Centres
Study in Depth/
Project Work and attendance at clinics in :
ENT
Eyes
Skins
VD
Orthopaedic & Accident
Clinical Attachments
Medicine
Surgery
Obstetrics & Gynaecology
Child Health
Psychiatry
General Practice Elective
Revision
Pass Primary B.M.
Pass Intermediate Part I B.M.
Pass Intermediate Part II B.M.
Pass Final B.M.
One Year's Pre-Registration Posts
6 Months Medicine
6 Months Surgery
Full Registration
General Practice
Hospital Work
Research Teaching
Community Medicine
Medical Administration
Industry
Abroad
Government Service
Armed Forces
Others

Third year. Students are attached to clinical services in hospitals in Southampton and Winchester in internal medicine (10 weeks), surgery (10 weeks), obstetrics and gynaecology (5 weeks), child health (5 weeks), and psychiatry (5 weeks). Pathophysiology is emphasized in the clinical teaching.

Fourth year. Students receive instruction in otorhinolaryngology, ophthalmology, sexually transmitted diseases, dermatology and orthopaedic surgery (1 day a week for 30 weeks).

Fifth year. The principle underlying clinical instruction in this year is that the student should have the maximum responsibility possible under supervision. For this reason teaching takes place in a large number of hospitals throughout Hampshire and will shortly be extended to the whole of Wessex.

Primary and Continuing Medical Care in the Community

A substantial amount of time is devoted to clinical teaching outside hospital. In addition to the contact with patients in their homes mentioned above, students spend one session a week for forty weeks in the third year studying internal medicine, surgery, paediatrics, obstetrics and gynaecology, and psychiatry, in the academic general practice. There is also a compulsory two week attachment to general practice in the fifth year. In addition to general practitioners on the University staff teaching is carried out by a large number of general practitioners in the community.

5. Continuing Education for Health Professional Personnel

There are also training courses for general practitioners and a wide range of refresher and other types of activity. The organisation of these programmes is based on the Postgraduate Dean's office in Southampton, but embraces the whole Region.

6. Other Characteristics of the Education System of the Experiment

The fourth year of the Southampton course is a major innovative feature. Almost the whole of an academic year is devoted to advanced study with project work in a field of the student's choice. The fields offered in 1975/76 were as follows:

- Auditory function and dysfunction
- Bio-Engineering
- Clinical pharmacology
- Cytogenetics
- Haematology
- Human development
- Human reproduction
- Immunological and alimentary studies

- Medical physiology and biochemistry
- Metabolic studies
- Microbiology
- Orthopaedics/nutrition
- Pathology
- Population studies
- Psychiatry
- Psychology
- Surgery/psychology
- Renal medicine and hypertension
- Respiration/medicine
- Surgery.

The fields vary in the amount and nature of the coursework, but in all the dominating feature is independent study carried out by the student under the direction of a tutor. The project does not necessarily involve original research. In some cases it may consist of a repetition of a series of classical experiments or a critical bibliographic review. A report of not more than 5,000 words has to be presented at the end of the year. During the year at least one day a week is devoted to practical clinical work.

III. Health Care System within the Regional Health Authority

1. Brief Description of the National Health Care System

The National Health Service of Great Britain underwent a reorganisation of its structure which took effect from 1st April, 1974 and brought together the services previously provided by the regional hospital boards and the local authority health services into a single composite organisation. Under the Act of Parliament a two-tier system of administration of the now integrated Health Services was established. The two tiers are:

- The Regional Health Authority, made up of a number of Area Health Authorities.
- The Area Health Authorities which are made up of a number of Health Districts.

The Area Health Authorities, with a few exceptions, have the same boundaries as local government boundaries relating to counties. An Area Health Authority in which a medical school is situated is called an Area Health Authority (Teaching). Hampshire is such an Authority. In a Teaching Area the Authority has a larger University representation and the salaries of the various administrative officers are higher than in the other areas.

The family practitioner service remains an independent contractual organisation between family practitioners and the family practitioner committees which are part of the new Area Health Authorities. The family practitioner service provides free treatment to all patients whether or not they are registered with a general practitioner, and also to visitors from other countries. Likewise the Area Health Authority services, both in the hospital and within the community, are free in terms of medical care to anyone registered with a family doctor, a resident of the United Kingdom or a visitor. For ophthalmic and dental treatment a fee has to be paid for a portion of the treatment given by the ophthalmic or dental practitioner. For all medical care with the exception of those two particular aspects the service is free. The Family Practitioner Committee is also responsible for the pharmaceutical services, in respect that it reimburses to the pharmacists the cost of prescriptions given to patients by general practitioners working for the Family Practitioner Committee. A charge is made to the patient by the pharmacist for each item of medicine which the doctor has prescribed, with the exception of children below the age of 5, or for people who are old age pensioners, which for women is 60 years of age and for men 65 years of age.

2. Data relating to the Region, Area and District

The Wessex Regional Health Authority is made up of four Area Health Authorities, Dorset, Wiltshire, the Isle of Wight and the Hampshire Area Health Authority (Teaching). When the Medical School has built up to its full student numbers (650 students divided in five years) clinical teaching in the fifth year will take place in hospitals and general practices in all the Areas of the Wessex Region. The estimated population of the Wessex Regional Health Authority is 2.5 million.

Hampshire Area Health Authority (Teaching)

This is the largest Health Authority within the Wessex Regional Health Authority with a population estimated at 1.2 million, and is one of the biggest Health Authorities in Great Britain. The Authority for administrative purposes is divided into four health districts. These are as follows:

i) Portsmouth and South East Hampshire Health District. Population 523,600. This is the largest health district in Hampshire AHA(T) and has the regional renal medical and dialysis unit and the regional renal transplantation unit within its district. It includes a large naval dockyard at Portsmouth, and a wide range of light and heavy industry. Southampton University Medical School's Chairs in Renal Medicine and Metabolic Medicine are situated in Portsmouth, and fourth and fifth year teaching of medical students takes place there.

ii) Southampton and South West Hampshire Health District. This is the second largest Health District within which the main buildings and centre of the University of Southampton Medical School are situated. The hospitals for medical student teaching are undergoing a complete rebuilding and the main academic centres are at Southampton General Hospital and the Royal South Hants Hospital. Together the development in Southampton of these hospitals will give a complex of some 1,800 acute beds, including most of the regional specialties for Wessex, e.g. neurology and neurosurgery, cardiothoracic surgery and paediatric surgery. There are also generous laboratories and other accommodation for research and teaching.

The Southampton Health District main concentration of population is in the Borough of Southampton. Approximately 225,000 people live in the Southampton Borough, the remainder in the rural areas to the west of Southampton in the New Forest district. Many of the people are employed directly or indirectly with the Port and its allied activities including the ship building/repair industry. In addition there are heavy engineering concerns including the Ford Motor Company and Chemical Engineering and Petroleum associated with the Fawley Oil Refinery. Away from this main centre of activity the rest of the Health District is predominantly rural, and in the New Forest District which is part of the Health District it is mainly an area for retirement for elderly people.

iii) Winchester and Central Hampshire Health District. This District is adjacent to the Southampton Health District and has a population of 188,500. The district general hospital at Winchester is used for teaching third and fifth year medical students. This Health District is predominantly rural. Part of the University of Southampton academic obstetric and gynaecological unit is situated at this hospital.

iv) Basingstoke and North Hampshire Health District. This Health District has a population of 183,300 and is built around the new town development at Basingstoke, which is providing an overspill town for London. Fifth year teaching of medical students takes place in Basingstoke.

3. Data about the Southampton and South West Hants Health District Hospitals

i) Number of teaching hospitals

There are two main hospitals in the Southampton Health District.

- Southampton General Hospital which is the main complex of the District General Hospital provision, including the regional units already stated and the academic clinical research units. Eventually there will be 1,200 beds approximately.
- Royal South Hants Hospital. This is being re-developed and will provide a radiotherapy centre, an acute psychiatric unit of 120 beds, some supporting acute medical and surgical beds, the ophthalmology and otolaryngology units for the Health District.

There will also be developed on this site the main out-patient investigation complex, including a day and short stay surgical and medical investigation unit.

ii) Health Care Professionals

There are 173 general practitioners employed in the Southampton and South West Hants Health District. Over 30 of these are involved in undergraduate medical teaching.

Hospital based Nursing Staff and Support Staff:

All grades including auxiliaries and clinical teachers, 2,320 whole-time equivalents; senior administrative nursing staff, 9 whole-time equivalents; student and pupil nurses, 578 whole-time equivalents; theatre operating department attendants, 40 whole-time equivalents; ancillary staff, 1,644 whole-time equivalents; building and engineering, 23 whole-time equivalents; scientific and technical staff, 633 whole-time equivalents.

Clinical Medical Staff

There are approximately 146 consultant and specialist medical staff in the Southampton and South West Hants Health District. This number includes professors and senior lecturers of the University of Southampton Faculty of Medicine who give some clinical sessions to Hampshire Area Health Authority. These consultants and academic staff provide the equivalent of 1,249 half-day sessions per week. All the consultant medical staff have honorary teaching contracts with the University and all the University clinical staff have contracts to carry out clinical work for the National Health Service.

Other Medical Staff

In addition the Southampton Health District has the following medical staff in training:

- Senior Registrars (senior staff in training for consultant and specialist posts)	- 47
- Registrars (junior medical staff in a training grade)	- 45
- Senior House Officers	- 71
- Pre-registration House Physicians/House Surgeons	- 18

In addition some of the family practitioners are employed as clinical assistants under the consultants and specialists, and there are the equivalent of 160 half-day clinical assistantship sessions per week by general practitioners.

4. Co-ordination of the "Regional" Health Care System

i) Co-ordination of the various health care institutions

It has been agreed that the main in-patient complex will be at the Southampton General Hospital with a limited out-patient facility for the regional units and some of the more specialized units. The main out-patient and day investigation and surgical unit will be at the Royal South Hants Hospital. In addition the Health District will develop peripheral (community) hospitals which will be staffed predominantly by general practitioners. These hospitals will provide the post-convalescent beds to support the two main acute units already mentioned.

There is a programme of health centre development in the Health District, and included in this and already operating is a University General Practitioner Teaching Health Centre (Aldermoor Health Centre), staffed by a Professor, 3 Senior Lecturers and 3 Lecturers. One further health centre is proposed for 1976/77 and a further two for 1977/78. On average the number of general practitioners practising from a health centre is six. The medical personnel are supported by community based nurses, health visitors and midwives, as well as community based doctors providing child health clinics, family planning clinics, and audiological clinics. Supporting paramedical services are also provided in these clinics, for example, chiropody, speech therapy, and health education.

ii) Co-ordination of the various "Regional" Health organisations

The Southampton Health District is part of the Hampshire Area Health Authority, which is part of the Wessex Regional Authority. On both the Regional and the Area levels there are permanent staffs and "members of the Authority" who are appointed for several years and representatives of interest groups.

The main aim and function of the Region is to monitor the performance of the Area Health Authorities, having provided them with Guidelines and Policies for the development of services within the Region as a whole.

The structure of the Area Health Authorities mirrors that of the Regional Health Authorities. The Area Health Authority members are also elected by the Secretary of State at the Department of Health and Social Security. Representatives include University representatives in the Hampshire Area Health Authority (Teaching) as well as other professional and lay trade union and voluntary organisation representatives. The structure of the Area team of officers is identical to that of the Region. In the Hampshire Area Health Authority (Teaching) for the day-to-day management of the Area Services, the Authority is divided into four Health Districts, including the Southampton and South West Hants Health District, within which the University of Southampton Faculty of Medicine and the Medical School are situated.

Within each Health District there is a District Management Team similar to the Area Team of Officers. The Health District is not a separate tier of the reorganised National Health Service, but is simply a method whereby the day-to-day management of the Area Health Authorities can be undertaken in a more logical way than by a single Area team of officers. The members of the District Management Team with the exception of the General Practitioner, are employees of the Area Health Authority. The District does not employ people within its own right. All employees are Area Health Authority employees. The District Management Team is slightly different in composition to the Area Team of Officers. It is made up of a District Administrator, a District Nursing Officer, a District Finance Officer, a District Community Physician, a Consultant or Specialist member, and a General Practitioner. In a Teaching District the University has the right to send an observer to all meetings, and receives all the papers.

Thus the day-to-day management of the Hospital Service lies with the District Management Teams where the Area Health Authority has more than one Health District. In a single District Authority, for example the Isle of Wight, the Area Team of Officers undertakes the same function as the District Management Team. In addition to the appointed officers there will be a representative of Consultants and Family Practitioner Services.

Other Health Care professionals (other than medical or nursing) can provide advice to the Regional Health Authority through some of the Professional Committees or by forming their own Committee and applying to the Secretary of State at the Department of Health and Social Security for recognition under Section 8 of the National Health Act, as being representative of that particular organisation.

IV. Integration of the Health Education and Health Care Systems on a "Regional" Basis

1. Administrative Structure

The administrative structure of the Medical School and of the Region has already been described. Integration of function is secured by the following means:

i) By means of cross-representation on the various statutory bodies and their relevant committees, the University of Southampton collaborates closely with the Wessex Regional Health Authority, the Hampshire Area Health Authority (Teaching), and the various other Health Authorities in the provision of teaching and research services and in the support of the clinical service. The Wessex Regional Health Authority acts as the University's agent in the construction of teaching hospitals, academic health centres and residential accommodation for clinical students.

ii) By the setting up of a Joint Liaison Committee with equal representation of the RHA, the AHA(T), the DMT (Southampton) and the University, to deal with all matters of common interest and to make recommendations to the relevant Authorities.

iii) By involving all the acute general hospitals and many of the psychiatric hospitals and general practices in the clinical training of medical students.

iv) By joint provision by the University and Regional Health Authority of a single medical library service (the Wessex Medical Library) and a Teaching Media service, for all health professionals in the Region.

v) By the joint provision by the University and the Region (with the support of the Royal Colleges) of programmes of post-graduate training in most of the specialties. These programmes include courses for the higher diplomas in Internal Medicine, Surgery, etc. and a large number of rotational posts at Registrar and Senior Registrar level, with periods of service in Southampton and in other centres in the Region.

V. Implementation of the Medical School of the University of Southampton: Difficulties and Resistances

1. Economic and Financial Aspects

The Medical School is financed from two sources. The University Grants Committee provides capital for academic buildings and equipment, e. g. teaching rooms and research laboratories, and revenue funds for the salaries of academic staff and for supporting posts and services. The provision under these headings has been fairly generous. The second source is the Department of Health and Social Security which provides capital for the service component of the hospitals and revenue for NHS staff and other expenditure in relation to the clinical service. In view of the fact that the Southampton School has been one of the first to be created for many years in the United Kingdom it has been extremely difficult to define and agree guidelines with the DHSS on the service increment required for a teaching hospital over and above the needs of a pre-existing District General Hospital. These needs, e. g. for additional NHS clinical staff, nurses and supporting services, have not been satisfactorily met as yet.

2. Psycho-Sociological Aspects

i) The National Health Service

The appointment of a large number of academic clinical staff over a short period of time has, understandably, created problems of interpersonal relationships in certain fields. It should be understood that many of the senior NHS staff in Southampton, with full tenure, were appointed to their posts before the advent of the Medical School and without any inkling that they would eventually be invited to teach in addition to their clinical duties in the new medical school. Almost all these problems have proved to be temporary and have been resolved.

ii) Teachers in the pre-existing University Departments

One of the reasons for the choice of Southampton as the site of a new medical school was the previous existence in the University of large departments of physiology and biochemistry, sociology, and psychology, engaged in teaching for B. Sc. and B. Soc. Sc. degrees. This naturally meant that these departments wielded a great deal of influence in the crucial early discussions on educational policy which had to take place before many of the clinical professors were appointed. This undoubtedly has been a major factor in the shaping of the Southampton medical curriculum and it has not always been possible to reconcile the educational ideas of the medically qualified and non-medically qualified staff in the Medical School.

iii) Students

There is a special but by definition temporary problem in relation to the first class of a new medical school, which was in evidence at Southampton in its earliest years. This consists of an exaggerated and unnecessary anxiety among the first class of students about their progress in the course, and about their likelihood of success in examinations. This is entirely due to the absence of more senior classes who can demonstrate by example the success of their individual performance and of the course as a whole.

3. Institutional Aspects

Authority was given to the University of Southampton and to the Wessex Regional Hospital Board (as it then was) to commence work on the creation of a medical school in 1967. The first class of 40 students was received in 1971 and will graduate in 1976. The class size is being built up to the planned maximum of 130 per annum as rapidly as possible, and it is currently hoped that the full complement of 650 students will be realized about 1980. At the time of writing there are 22 Professors in the medical school (in addition to Professors in the basic sciences appointed to other Faculties of the University before 1967) supported by some 80 Senior Lecturers and Lecturers. In addition, as has been mentioned above, a very large number of consultants and junior staff throughout the Wessex Region have honorary contracts with the University to conduct teaching.

The capital building programme, which involves the creation of a preclinical sciences building, the complete rebuilding of two hospitals and the construction of an academic health centre in Southampton, and a research laboratory and residential accommodation for students at Portsmouth, is at present about half complete.

THE UNIVERSITY OF CINCINNATI MEDICAL CENTER
UNITED STATES

Director: S. B. Troup

PARTICULARS OF PARENT UNIVERSITY

Name : The University of Cincinnati

Date of creation : 181[illegible] Cincinnati College
1870 University of Cincinnati (Municipal Institution)
1968 University of Cincinnati (municipally sponsored state affiliated institution)

Number of students : 38,742 undergraduate and graduate

Number of teachers : 1,700 full-time
1,285 part-time

Institutional structure:

1. College of Engineering
2. College of Law
3. College of Education and Home Economics
4. College of Arts and Sciences
5. College of Design, Architecture and Art
6. College of Community Services
7. College of Business Administration
8. College Conservatory of Music
9. University of Cincinnati Medical Center
   a) College of Medicine
   b) College of Nursing and Health
   c) College of Pharmacy
   d) Christian R. Holmes Hospital
10. Ohio College of Applied Science
11. Tri-County Academic Center
12. Division of Continuing Education and Metropolitan Services
    a) Evening College
    b) Summer Session

13. University College (2-year)
14. Raymond Walters General and Technical College (2-year)
15. Clermont General and Technical College (2-year).

I. Main Objectives of the Experiment

1. To provide an environment and create and maintain educational systems for the training of health care personnel.
   - A variety of disciplines, i. e. physicians, nurses, laboratory technicians, physician assistants, mental health assistants, etc.
   - Multiple levels of opportunity, i. e. undergraduate, post-graduate, certificate rather than diploma programmes, etc.
   - Continuing education opportunities (recertification training "life-time of learning" programmes, development of self-teaching programmes, etc.).

2. To provide personal health services to that portion of the city and county population unable or unwilling to seek their personal health care elsewhere.
   - Primary health care services.
   - Secondary (hospitalization for uncomplicated illnesses).
   - Tertiary (highly skilled and specialized services, i. e. renal transplantation, open-heart surgery) provided on a regional basis.

3. To create an environment that will encourage and facilitate health research in the broadest sense, from molecular biology to social and political dynamics of health care.

4. To provide a co-ordinating and support system for health care to various governmental agencies, local, regional, and national; to provide consultation and support for private health care agencies; and to serve as an initiator and resource for a variety of health planning agencies.

II. The Education System of the Experiment

Date of creation :	May, 1961
Number of students :	1,789 full-time, 103 part-time
Number of teachers :	526 full-time, 103 part-time, 756 volunteers

1. Institutional Structure

i) College of Medicine

Date of creation : 1819 Medical College of Ohio
1917 University of Cincinnati College of Medicine

Number of students : 636 Undergraduate
172 Graduate full-time
40 Graduate part-time
61 Non-degree

Number of teachers : 455 full-time
96 part-time
756 volunteer
348 Residents and Fellows

Duration of studies : 4 years

Department of Anaesthesia
Department of Anatomy
Department of Biological Chemistry
Department of Biomedical Communications
Department of Dermatology
Department of Environmental Health
Department of Family Medicine
Department of Internal Medicine
Department of Laboratory Animal Medicine
Department of Microbiology
Department of Neurology
Department of Obstetrics and Gynaecology
Department of Ophthalmology
Department of Otolaryngology and Maxillofacial Surgery
Department of Pathology
Department of Paediatrics
Department of Pharmacology and Therapeutics
Department of Physical Medicine and Rehabilitation
Department of Physiology
Department of Psychiatry
Department of Radiology
Department of Orthopaedic Surgery
Department of Surgery

ii) College of Nursing and Health

Date of creation : 1889 Cincinnati Training School for Nurses
1916 School of Nursing and Health, University of Cincinnati
1942 College of Nursing and Health

Number of students : 516 Undergraduate full-time
40 Undergraduate part-time
60 Graduate full-time
23 Graduate part-time

Number of teachers : 48 full-time
7 part-time

Duration of studies : Undergraduate: 4 years + 1 summer
Master: 6 quarters

iii) College of Pharmacy

Date of creation : 1850 Cincinnati College of Pharmacy (private college)
1954 University of Cincinnati College of Pharmacy

Number of students : 309 Undergraduate
35 Graduate

Number of teachers : 23 full-time

Duration of studies : Undergraduate: 5 years (2 years pre-pharmacy, 3 years professional)
Pharm D. : 2 years
Masters: 4 quarters
Ph. D. : 2-3 years

iv) Cincinnati General Hospital

Date of creation : 1821 Commercial Hospital and Lunatic Asylum
1915 Cincinnati General Hospital
1962 Administration transferred from the City of Cincinnati to the University of Cincinnati

Adult Beds : 703
Bassinets : 60
Medical Staff : 723
Residents, Fellows : 343
Volunteers : 756
Admissions : 21,042
Operations : 14,269
X-rays : 123,991
Laboratory Procedures : 710,721
Clinic Visits : 154,285
Births : 2,780
Days Care to patients : 194,470
Average daily census : 533
Patients examined in Emergency Unit: 127,389

v) Christian R. Holmes Hospital

Date of creation : 1929

Adult beds : 98

vi) Veterans Administration Hospital

Adult beds : 429

vii) Children's Hospital Medical Center

Beds : 295

viii) Central Psychiatric Clinic

Outpatient visits : 35,000

2. Co-ordination of the Education System

i) Within the experiment

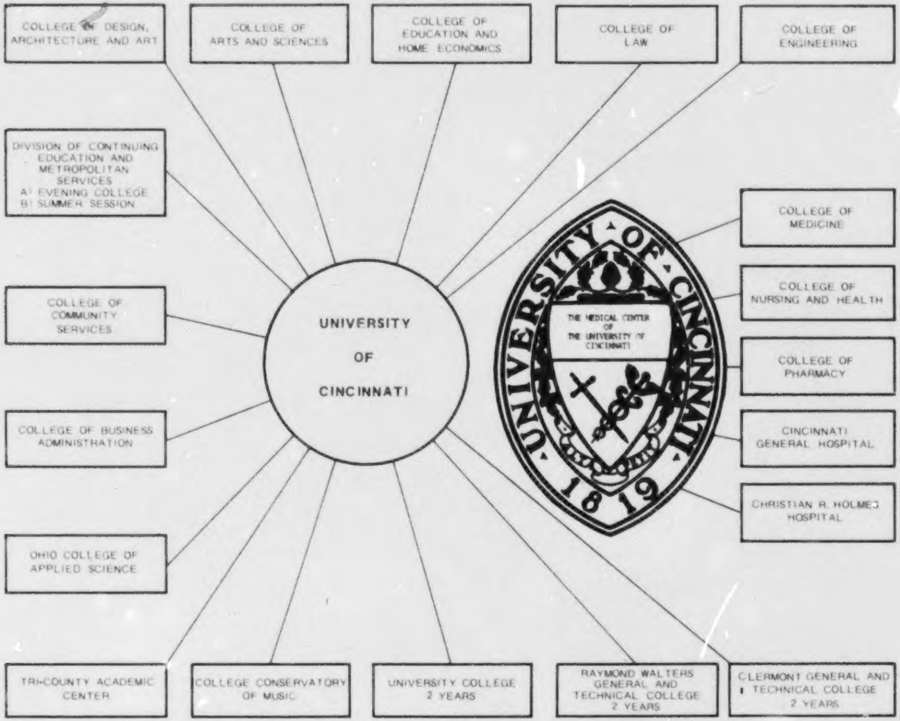
The principal co-ordination is managed by the Office of the Vice President of the University and Director of the Medical Center. Organisational efforts are recent and practical results are limited thus far (see 3 below). An intercollege committee is working to identify and develop common courses. An Assistant Dean in the college of Medicine serves as the co-ordinator for a rural health education centre involving the disciplines of nursing, pharmacy, and medicine. A member of the nursing faculty with a graduate degree in education serves as the co-ordinator of all continuing health education programmes. The Department of Biomedical Communications is central to much of the co-ordination. They are particularly concerned with the social skills and sensitivities of interpersonal and intergroup communication as well as the traditional technological forms of communication.

ii) Between the experiment and the University

The Vice-Presidential office is the principal link between the experiment and the University. The Vice-President sits on the University's Research Council and is the adviser on health affairs to the President of the University. The University's Dean of Graduate Studies administers the graduate study programmes of each of the health-related colleges and co-ordinates the graduate degree programmes. The first two years of the College of Pharmacy curriculum is provided entirely by the Central Campus of the University while the remaining three years is offered by the Medical Center. Most of the first two years of the four-year baccalaureate nursing programme is provided by the Central Campus of the University with the remaining two years provided by units of the Medical Center.

Table I

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE, UNIVERSITY OF CINCINNATI


COLLEGE OF DESIGN, ARCHITECTURE AND ART
COLLEGE OF ARTS AND SCIENCES
COLLEGE OF EDUCATION AND HOME ECONOMICS
COLLEGE OF LAW
COLLEGE OF ENGINEERING
DIVISION OF CONTINUING EDUCATION AND METROPOLITAN SERVICES
A) EVENING COLLEGE
B) SUMMER SESSION
COLLEGE OF MEDICINE
COLLEGE OF NURSING AND HEALTH
COLLEGE OF COMMUNITY SERVICES
UNIVERSITY OF CINCINNATI
THE MEDICAL CENTER OF THE UNIVERSITY OF CINCINNATI
UNIVERSITY OF CINCINNATI
1819
COLLEGE OF PHARMACY
COLLEGE OF BUSINESS ADMINISTRATION
CINCINNATI GENERAL HOSPITAL
CHRISTIAN R. HOLMES HOSPITAL
OHIO COLLEGE OF APPLIED SCIENCE
TRI-COUNTY ACADEMIC CENTER
COLLEGE CONSERVATORY OF MUSIC
UNIVERSITY COLLEGE 2 YEARS
RAYMOND WALTERS GENERAL AND TECHNICAL COLLEGE 2 YEARS
CLERMONT GENERAL AND TECHNICAL COLLEGE 2 YEARS

3. Common Theory Courses - Common Core

Relatively little has been accomplished thus far. Two elective courses are offered to undergraduate students in the Colleges of Medicine, Pharmacy, and Nursing. These have been developed by the College of Medicine's Department of Biomedical Communications. The first is entitled "Human Awareness". The second is entitled "Human Sexuality". Little success has been evident thus far in developing common theory courses in biological sciences. The experience thus far has suggested that the varying backgrounds of the students in the different disciplines is sufficiently diverse to make common course development extremely difficult.

4. Practical Training

i) Early clinical experience

- In university hospitals: early clinical experience during the educational process has not been a prominent part of the programme in any of our colleges. During the second year, College of Medicine students spend several hours weekly learning methods and skills in physical diagnosis. Much, but not all, of this is in the University Medical Center. We also use affiliated hospitals in the community. The clinical experience for the College of Pharmacy students is largely limited to their fifth year, and this is gained within the hospitals of the University Medical Center for the most part. College of Nursing students have very little clinical experience until their third year. Again, most of this experience is obtained within the University Medical Center.

- In other community settings: College of Nursing students gain clinical experience in the most diverse community settings. They work within the school health systems in the City of Cincinnati, in industrial health settings, in institutions for the elderly, both private and public, and in a number of hospitals affiliated with the University Medical Center. College of Pharmacy students gain clinical experience in hospitals affiliated with the University. College of Medicine students obtain clinical experience in at least five hospitals outside the University Medical Center. They also have ambulatory patient experience in clinics operated by the City of Cincinnati Health Department, in neighbourhood health centers operated by community groups, and as far distant as 50 kilometres away at Georgetown, Ohio (Brown County Hospital).

ii) Team work in clinical experience

We have not yet achieved significant programme experience in health team educational programmes.

5. Continuing Education for Health Professional Personnel

The most encouraging aspect of the experiment lies in continuing education programmes.

This is conducted on a regional basis and has been supported, in part, by a federal grant so that programmes are offered to health professions personnel from a three-state area, Ohio, Kentucky, and Indiana. Approximately 70 one and two-day courses are offered during a single year. The programme is co-ordinated by a registered nurse with a graduate degree in education. An Advisory Council assists her. That group has representation from all the health profession colleges and from a variety of health agencies within this area.

The Department of Biomedical Communications within the College of Medicine also offers between 10 and 16 hours weekly of television broadcasting over a closed circuit that reaches 19 separate hospitals throughout this area.

6. Other Possible Characteristics of the Education System of the Experiment

The Medical Center has entered into consortium arrangements with other institutions on a regional basis. Eleven colleges and universities are involved. The most highly developed programme is in Health Services Administration. A newly developing programme in Ethics and Health Policy is under development and yet a separate consortial arrangement.

III. The Health Care System of the "Region" served by the Experiment

1. Brief Description of the National/State Health Care System

Pluralistic with variable combinations of private, volunteer, and governmental agency programmes. Federal support for individuals 65 years and older, combination of support programmes for the poor, variable state by state.

2. "Regional" Data

i) Geographical

Cincinnati is the third largest city of Ohio. It is in the extreme southwestern corner of the state, immediately across the Ohio River from the state of Kentucky, and the state of Indiana lies 15 miles to the west.

ii) Demographic

The city of Cincinnati has a population of just under 500,000. The greater Cincinnati area, including suburban areas, portions of northern

Kentucky and western Indiana include approximately 1.8 million people. Twenty-eight per cent of the city's immediate population is Black. A significant portion of the population are from the relatively poor, formerly impoverished areas of Appalachia (coal-mining country) of northern Kentucky and West Virginia. The oldest and most predominant cultural influence is German. Numerous of its earliest settlers came from the Rhineland.

iii) Socio-Economic and Political

The area is highly industrialized. Its economic base is manufacturing, not raw materials. It is viewed as a centre of the machine tool industry but also serves as a manufacturer of many smaller industrial items. It is a regional centre for insurance, finance, and retailing. A large Black population (28% of the immediate city population) comprise much of the indigent but many of the poor also are from the rural areas of the Appalachian district. The Cincinnati General Hospital is the principal source of health care for much of this population. Although extremes of poverty and wealth can be identified, the area has prided itself on the stability of employment through many national crises.

3. Data Concerning the "Regional" Health Care System

i) Number of university teaching hospitals

Cincinnati General Hospital	763 beds
Christian R. Holmes Hospital	98 beds
Children's Hospital Medical Center	295 beds
Veterans Administration Hospital	429 beds
Total	1,585 beds

ii) Number of private or public hospitals, clinics, health care centres (non-university)

Non-university hospitals in Greater Cincinnati	19
Neighbourhood clinics	12
Comprehensive health centres	4

iii) Health Care Professionals:

Physicians in Hamilton County	1,300
Practising pharmacists in Hamilton County	1,000
Licensed Practical Nurses in Hamilton County	2,929
Licensed Registered Nurses in Hamilton County	5,686

4. Co-ordination of the "Regional" Health Care System

i) Co-ordination of the various health care institutions

Co-ordination presently is more in planning than in fact. Federal law requires regional planning for new programmes and capital improvements. The University is represented on that planning group. Co-ordination, in practice, is achieved in continuing education programmes. Co-ordination also is achieved for postgraduate training programmes. Probably the least satisfactory co-ordination has been possible in patient care programmes. Thus, many hospitals are unwilling to give up special care systems, such as open-heart surgery, renal dialysis, so that they can be centralized. Clearly, legislation finally will govern this.

ii) Co-ordination of the various "regional" health organisations

Relatively little co-ordination exists in insurance programmes except at the federal level. The programmes are fragmented and relatively incomplete. Professional organisations are fairly well co-ordinated but largely in a self-centred way. Thus, the Ohio State Nurses Association has a functioning branch in the city of Cincinnati, and they both are a part of a national association of nurses. Relatively little is accomplished except for nurses by such co-ordination. The same criticism can be levelled against physicians as well.

5. Use of "Regional" Health Care Centres as Education Centres. The Role of "Regional" Practitioners as Teachers

The University Medical Center has created regional health care centres both in rural and in urban settings. These are used not only as care but as education centres. The functioning rural centre is in Georgetown, Ohio, approximately 50 kilometres east of the city of Cincinnati. Full-time faculty members in medicine, nursing, and in pharmacy are assigned to that facility. Both undergraduate and postgraduate students in those disciplines obtain a part of their training by assignment to that facility. Full-time faculty members now are based in a fee-for-service primary health care centre in an urban setting. Relatively little education presently is conducted there, but plans are in progress to create that function. For the present, the University, through this instrument, is providing health care where relatively little was available. Numerous regional practitioners are used as teachers, both in extramural centres such as have been described and in the hospital system as well. The University has assisted the city in the recruitment of professionals to the staff of the city Health Department and have provided faculty appointments where appropriate. This facilitates recruitment of capable personnel and provides them with academic opportunities to maintain skills.

6. Other possible Characteristics of the 'Regional" Health Care System

A fundamental barrier to creating a regional health care system is the absence of a well integrated comprehensive insurance programme.

Then, the placing of different responsibilities in competing governmental agencies also creates a problem. Thus, health care is a concern of one agency at the state level while education is the responsibility of yet another agency. Little co-ordination is possible on a governmental basis. Paradoxically, one of the forces that has permitted regional co-operation to any extent has been the fact that most of the health professionals, some 80%, are graduates of the University of Cincinnati. Loyalties do exist, patterns of referral do exist, and it is possible to gain co-operation in planning on the basis of these loyalties. They should not be underestimated for their potential value.

IV. Integration of the Health Education and Health Care Systems on a "Regional" Basis

1. Participation of the Medical Center

i) In the analysis of the needs of health personnel

The University Medical Center is the only institution graduating physicians. The University Medical Center is the basis for virtually all of the post-graduate medical education programmes. The University Medical Center's College of Nursing provides a minority of the region's nursing graduates (the majority are graduated by training programmes operated in hospitals and in smaller colleges), but the educational leaders for nursing are graduated from the University's College of Nursing. The University Medical Center's College of Pharmacy is one of four in the state and, again, its graduates constitute the overwhelming majority of pharmacists who practise in the region.

ii) In the analysis of the needs of the health care infrastructure

No effective regional analytic group is in existence today. The University expects to take the lead in such analyses through the creation of a Department of Health Policies and Programs within the Medical Center. This is at least one year away.

iii) In a policy of prevention

The University Medical Center makes its largest regional contribution in prevention through the College of Medicine's Department of Environmental Health. This rather large department works closely with the federal Environmental Protection Agency and provides numerous consultation services for both local and regional industries with respect to development and improvement of preventive health systems. They also contribute to the surveillance and identification of environmental hazards such as water and air pollution. The Department of Medicine within the College of Medicine has a regional research and educational programme in the field of arteriosclerosis. The College of Nursing has a federally funded regional programme in mental health nursing related to both prevention and care.

iv) In a policy of health education

The University Medical Center hopes to implement a regional concept of education and specialized support in the broad field of health. These include the creation of ambulatory health care clinics that also can serve an educational function, preventive mental health programmes, expended training programmes for primary care physicians, and provision of regional referral centres for highly specialized care programmes such as for kidney transplantation, dialysis, open-heart surgery, and so forth.

v) In a definition of a "Regional" health policy

Regional health policies probably will be defined, not by the University, but rather by various levels of government. The University plays an active role as a member and consultant to a variety of health policy programmes. Ultimately, however, the policies will be those of various levels of government and, hopefully, will have been influenced by the experience and skills of University representatives. The University of Cincinnati, as a major urban university, engages in policy questions such as transportation, housing, and other social questions. Health is simply a newer manifestation of the University's interest and recognized responsibilities.

2. Research policy of the Medical Center according to the above-mentioned Needs

The University is actively engaged within the urban community in a wide variety of research efforts. The University Medical Center, for its part, has liaison with a broad group of federal, state, and local health-related agencies. These are through contracts and grants from the National Institute of Environmental Health Sciences, the National Institute of Occupational Safety and Health, the Environmental Protection Agency, the National Institutes of Health, (Heart and Lung, Cancer, etc.), the Food and Drug Administration, and the National Science Foundation. Programmes vary from the field of molecular biology (concerned with sickle cell hemoglobin, the role of viruses in cancer) to social policies such as group dynamics, organisational development in health care fieids, and health policy development at the local and regional levels. Major regional efforts are under way in the fields of occupational health and environmental hazards. The impact of interest in energy is expressed by studies in the field of the influence of fossil fuels on health in an environmental sense to concern for individual health in coal miners.

V. Implementation of the Medical Center: Difficulties and Resistances

1. Economic and Financial Aspects

The financial support of the Medical Center is complex. Approximately 75% of the operating budget of the College of Nursing and Health comes from the University General Funds. These in turn are derived from tuition, financial support from the City of Cincinnati, and a larger portion from the State of Ohio. In the case of the College of Pharmacy over 90% of the annual budget comes from University General Funds, as described for the College of Nursing and Health. In the case of the College of Medicine, only 20% of the annual budget of approximately 25 million dollars comes from University General Funds. The remaining 80% is derived from federal grants and contracts, professional fees generated by the faculty, and other sources. In the case of a single department, the Department of Environmental Health, nearly the total budget is derived from grants and contracts with very little in the way of University General Funds or endowment supplying the necessary dollars.

The support of the Cincinnati General Hospital is no less complex. Approximately one-seventh of the annual operating budget is supplied by a Hamilton County tax levy. This comes to approximately 6.3 million dollars a year. Approximately 3.5 million dollars, some 7% of the annual operating budget, is supplied as a grant from the State of Ohio because the hospital is used as a major teaching resource. The remainder of the operating budget is derived from patient-care income, largely from third parties such as the Social Security Agency (medicare) from Medicaid (State of Ohio, county, and federal), and private insurers. The annual total budget for the Medical Center is approximately 75 million dollars.

2. Psycho-Sociological Aspects: Changes in Attitude

i) On the part of the administration and public authorities

We find strong support for this from the leadership of the University and its Board of Directors. Generally, our early efforts have met with approval by other colleges and groups within the University. Such concern as has been expressed relates almost entirely to concern about funding and the fear that expansion of such efforts may result in diminished funding for individual or personal programmes. A major problem relates directly to (iv) below - our necessity for educating health personnel in manners that will permit them to share responsibility and authority with other individuals so that we truly might create team programmes.

ii) On the part of teachers

This perhaps is the most difficult. A current, and constant, threat to teachers in the health professions is that their time and resources dedicated to teaching will be diluted or eroded by rising demands for service. We have not yet succeeded in allaying the anxiety of our teachers. What we are working toward creating is a system that will permit the educational system to function - and be supported by clinical service. We cannot claim great success for this as yet.

iii) On the part of students

The students probably are the most enthusiastic about a regional concept. One encounters relatively little resistance to regional efforts if we can insure adequate teaching while we take on increasing service burdens. The generally altruistic nature of students and their commitment and orientation toward service makes this much less of a problem than it does for faculty.

iv) On the part of health care teams

We have not yet had great success in truly creating health care teams, particularly on a regional basis. That we have not is a reflection, in part, of the resistance of individual professionals to yield autonomy. We are persuaded that the successful development of health care teams must begin at the earliest possible educational level. We have become convinced that one has great difficulty in achieving these goals when one begins late in the educational process and, particularly, at the postgraduate level.

v) On the part of the population

On the whole, this is broadly welcomed. We have too little experience to offer more than that generalization.

3. Institutional Aspects

The most difficult decisions in the development of new programmes involving the Medical Center are those that require health service commitments as contrasted with those that are more obviously educational or research oriented. Traditional attitudes are that the university is an institution for education and research, not for community service. While this has been true historically, it is no less true that the universities are unlikely to survive, at least in an urban setting, unless service also is a major part of their programme. If answers are to be found, they will relate to our success in translating the fruits of the education and research into an identifiable service mode for the community we serve.

THE HEALTH SCIENCES CENTER AT STONY BROOK
UNITED STATES

Director: J. Oaks

PARTICULARS OF PARENT UNIVERSITY

Name	:	State University of New York at Stony Brook
Date of creation	:	The State University of New York began as a relatively loose confederation of pre-existing teacher colleges, agricultural and technical colleges and statutory colleges in 1948. The university center at Stony Brook began in 1962
Number of students Number of teachers	:	Stony Brook, including the Health Sciences Center has 15,000 students and 1,200 faculty
Institutional structure:		1. College of Arts and Sciences 2. College of Engineering 3. Health Sciences Center

I. Main Objectives of the Experiment

1. To increase the supply and proficiency of health professionals in fields of demonstrated regional, state and national need.

2. To provide health care of sufficient variety and quality to enable professional education and related research to occur.

3. To sustain an environment in which research in health and related disciplines can flourish.

4. To emerge as a regional resource for advanced education, patient care and research in broad areas of health.

II. The Education System of the Experiment

1. Institutional Structure

i) School of Allied Health Professions

Date of creation : 1970

Number of students : 190

Number of teachers : 34

Duration of studies : Last two years Baccalaureate/two years Graduate

ii) School of Basic Health Sciences

Date of creation : 1970

Number of students : 115 (plus 100 Post Doctorates) by 1984, up from 42 in 1975

Number of teachers : 136, up from 57 in 1975

Duration of studies : Two to four years Graduate plus pre-clinical component for other Schools

iii) School of Dental Medicine

Date of creation : 1973

Number of students : 200 (plus 50 interns and residents) by 1984, up from 72 in 1975

Number of teachers : 95, up from 36 in 1975

Duration of studies : Four to seven years Post Baccalaureate

iv) School of Medicine

Date of creation : 1971

Number of students : 400 (plus 400 interns and residents) by 1982, up from 131 in 1975

Number of teachers : 200; up from 82 in 1975

Duration of studies : Four to seven years Post Baccalaureate

v) School of Nursing

Date of creation : 1970

Number of students : 230

Number of teachers : 27

Duration of studies : Last two years Baccalaureate/two years Graduate

vi) School of Social Welfare

Date of creation : 1970

Number of students : 285

Number of teachers : 26

Duration of studies : Last two years Baccalaureate/two years Graduate

2. Co-ordination of the Education System

i) Within the experiment

The initial plan for the Center described a multi-institutional network providing instruction from the last two years of undergraduate studies through continuing education for practising professionals. The institutions in this network included the Health Sciences Schools of the University and the University Hospital, clinical campuses, affiliated hospitals, clinics, and social and public agencies. These institutions would provide education for a greater number of different professions than had been co-ordinated in any previous institution. At present, major energies are still devoted to the basic issues of health professions education: organising departments, recruiting faculty and making the promotion and tenure decisions which determine programme quality, designing and improving curricula and support services, and building and adapting to the physical plant which will house the Center.

Co-ordination occurs around several themes, the most important of which are allocating scarce resources, the development of responsible faculty decision making, and encouraging the authority and responsibility of the Deans of the Schools.

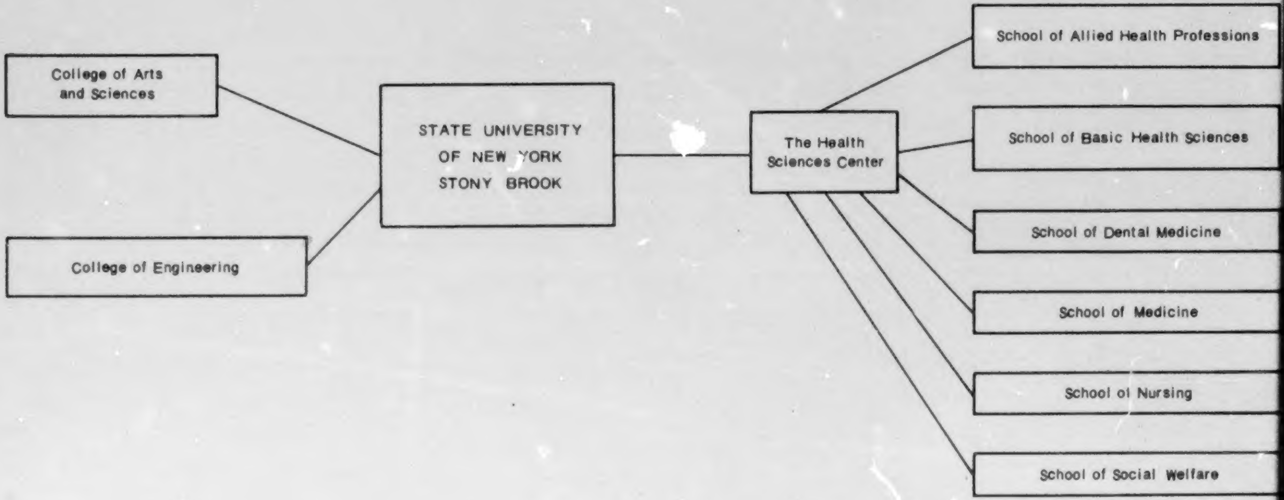
The policy of the Vice-President for Health Sciences is to achieve programme goals by maximizing the authority of the Deans of the Schools. The tools to implement this policy are his limited power of persuasion, the purse, and approval of personnel actions.

Deans are both leaders of their faculties and managers accountable for the performance of academic units. The Vice-President and his staff provide consultation and supporting services to Deans and their staffs. Department chairmen, Deans of clinical campuses, and Directors of affiliated hospitals and other institutions are encouraged to deal with the Deans of the professional schools, rather than directly with the Vice-President. The Vice-President must, at times, ignore or deflect direct pressure from wealthy and powerful departments or affiliates in order to maintain the precarious equilibrium of the federation of schools.

One central problem of academic programmes is the responsibility of faculties. Only a faculty has the requisite expertise to admit, teach, and evaluate students. Members of a newly created faculty must pool expertise developed in other settings to create standards and procedures

Table I

GENERAL PLAN OF THE INSTITUTIONAL STRUCTURE OF THE HEALTH SCIENCES CENTER, STONY BROOK


College of Arts and Sciences
College of Engineering
STATE UNIVERSITY OF NEW YORK STONY BROOK
The Health Sciences Center
School of Allied Health Professions
School of Basic Health Sciences
School of Dental Medicine
School of Medicine
School of Nursing
School of Social Welfare

appropriate to the new environment. The absence of widely shared assumptions, symbols, and experiences among members of a new faculty creates difficulties. A collective tradition develops slowly.

ii) Between the Experiment and the University

The University consists of two levels of authority beyond the Deans of the professional Schools and the Vice-President for Health Sciences. These levels are the President of the University Center at Stony Brook and the Chancellor of the State University of New York who is in Albany.

All authority is by delegation from the President. Although there are amicable working arrangements between the Vice-President for Health Sciences and his Vice-Presidential colleagues, some ambiguities of authority remain. The annual budget for the Health Sciences is approximately 25% of the budget of the University Center.

3. Common Theory Courses - Common Core

A two-level, one-year common core has developed in the teaching of basic sciences: anatomy, biochemistry, microbiology, pathology, pharmacology and physiology. The first level consists of courses offered to most entering students in the Schools of Allied Health Professions and Nursing, occasional medial and dental students and a limited number of students in the College of Arts and Sciences at the University Center. The second level, called the Medical Dental Core, is designed for entering students in the Schools of Medicine and Dental Medicine and the graduate programme in Clinical Nurse Practice. Particular courses at this level are required by various Allied Health programmes: physical therapy and medical technology, for example. Candidates for advanced degrees in the biological and basic health sciences also enroll in these courses.

Efforts to create common core courses in the social and behavioural sciences and the humanities have foundered to date. Each School has some requirements in this area, and courses are offered by faculty of various Schools and the College of Arts and Sciences.

A possible common core in public health - epidemiology, health administration, and health services research - has been discussed for some years.

4. Practical Training

i) In early clinical experience

University Hospital will be completed in 1978. In the interim, University Hospital services are maintained by various departments in collaboration with the clinical campuses and, by the Departments of Community and Family Medicine, with several community hospitals. The Dental Care Center, located on the University Campus, provides the setting for clinical education in Dental Medicine. Programmes in

Allied Health, Nursing and Social Welfare are conducted in settings with a wide range of University authority and influence. Even when University Hospital is completed, considerable clinical teaching will occur in other settings in the region.

The clinical campuses are the major sites for clinical training for the School of Medicine. Entering medical students participate in one day of clinical instruction each week in the first year. From the end of the first year through the second year, the curriculum is organised around organ-systems, combining Basic Science and clinical instruction in almost equal amounts. The third and fourth years are devoted to clerkships and electives. These students thus spend more time in health institutions which provide services to citizens or the Long Island region than they do within what is usually defined as the University. Students, more than most faculty or administrators, experience the academic health center as a regional network of institutions and individuals.

At the present time, the Health Sciences Center has affiliation contracts with 74 institutions:

	VOLUNTARY	PROPRIETARY	FEDERAL	STATE	LOCAL GOVERNMENT
Hospitals	21	6	2	4	1
Nursing Homes..	1	2	0	0	2
Others	5	1	1	5	3

ii) Team-Work in Clinical Experience

In the temporary absence of a University Hospital, team experience consists more of opportunities to participate in and observe a variety of interprofessional relationships than of the development, implementation and evaluation of new models of team work. Even when University Hospital is open it will provide opportunities for only a limited number and variety of teams: reliance on regional institutions for a variety of team experiences will continue.

5. Transition from Short Cycles of Health Education to Long Cycles (horizontal and vertical mobility)

The most important contribution of the academic health centre at Stony Brook to mobility has been the basic sciences core curriculum described above. Providing access to good science is a practical university contribution to the expansion of educational opportunities.

Although many obstacles to mobility related to class, race, sex, and ethnicity have been reduced in recent years, significant social and economic barriers remain. The greatest demand is for education that assists upward movement within particular professions and from lower to higher status allied health professions.

6. Continuing Education for Health Professional personnel

Each health profession offering a programme at the University has organised continuing education programmes in collaboration with colleagues in the region. Most of these programmes are presented at or near regional health care institutions. Notable programmes have been organised by the School of Dental Medicine, the Department of Pathology in the School of Basic Health Sciences, and the Department of Physical Therapy in the School of Allied Health Professions. Coordination of continuing education from the Office of the Vice-President was abandoned after experience indicated that the flow of supply and demand was almost entirely between each professional school and its colleagues in the region.

III. The Health Care System of the "Region" served by the Health Sciences Center at Stony Brook

1. Brief description of the National/State Health Care System

A number of characteristics of the National and State Health Care systems have influenced the history and present condition of the Health Sciences Center. These characteristics include:

- a general preference for the use of subsidies rather than coercion to induce institutional change;
- public regulation of professional activities (including education) which has tended over time to be dominated by those regulated;
- considerably greater political strenght among interest groups than in any broadly defined public or consumer interest;
- use of the concepts of public andprivate control as rallying cries in the struggle to share in the proceeds and processes of public affairs;
- ill-fated national strategies to improve access to health care by increasing the supply of hospital beds (begun in 1946) and then of health professionals (begun in 1963);
- efforts to recover from the worst failures of these strategies by national requirements for State and regional health planning (begun 1965, re-organised 1975);
- billions of dollars in subsidies for demand in the health market (Medicare, Medicaid, tax deductions for individual and group insurance) which are poorly articulated with public policy to increase and regulate supply.

2. "Regional" Data

i) Geographical

The region served by the Health Sciences Center and its affiliated institutions includes all of Nassau and Suffolk counties and part of Queens County.

Nassau and Suffolk counties are the two most eastern counties of New York State. The two counties combined encompass an area of 1,372 square miles and include 194 square miles of inland and tidal water areas.

The major uses of the land are: residential 21%, recreation and open space 7%, commercial and industrial 2%, agricultural 8%. Even though Nassau and Suffolk counties are among the fastest growing counties in the nation, more than 40% of the land is still available for development.

ii) Demographic

Population figures for 1973 (the latest available) are as follows:

Nassau County	1,421,400
Suffolk County	1,197,200
Total	2,618,600

The Health Sciences Center and its member institutions also serve part of Queens, one of the five boroughs of New York City. The population of Queens (1973 figures) is 1,984,600.

The density of Nassau county is 4,922 people per square mile and of Suffolk county 1,200.

Population projections anticipate a seven-fold increase in the senior citizen sector of the population by 1985, and a relatively minor increase in the 45-64 age bracket.

iii) Socio-economic and political

The Nassau County budget totalled $ 497,000,000 (1974), 12% of which was allocated to health services. The Suffolk County budget totaled $ 415,000,000 (1974), 5% of which was allocated to health services.

There is a work force of approximately 933,000 persons in the Nassau-Suffolk region. Over 60% of employed persons on Long Island have service jobs. The major employment categories are: wholesale and retail, government (including teachers), self-employed service industries, manufacturing of durable goods, especially aerospace and aircraft industries, soft goods, apparel and manufacturing related to printing and publishing. Per capita income figures for 1970 are:

Nassau	: $ 4,679
Suffolk	: $ 3,350
National	: $ 3,119
New York State	: $ 3,608

3. Data concerning the Regional Health Care System

i) Number of University teaching hospitals

University Hospital will not be completed till 1978. Students do clinical training in community facilities.

ii) Number of private or public hospitals, clinics, health care centres (non university)

There are 38 hospitals in the bi-county region with 25,568 beds for providing general, mental, tuberculosis, and rehabilitation care. In addition, the Veterans Administration has a bed complement of 1,209 - general care 568 and mental 641.

Of 18,360 beds for mental care, 537 beds are in proprietary hospitals, 86 are at the Nassau County Medical Centre, 65 are in voluntary non-profit hospitals, and 17,672 are at State mental institutions.

Nursing home type facilities in the bi-county area total 6,113 beds in 55 facilities. Four thousand, seven hundred and seven, or 77% are under proprietary auspices, 1,087 or 17.8% under Government ownership and 319 or 5.2% under voluntary non-profit sponsorship.

The Nassau County Health Department runs four neighbourhood health centres in Plainview, Freeport-Roosevelt, Hempstead and Elmont. The Suffolk County Health Services Department operates five such centres in Amityville, Brentwood, Mastic Beach, Riverhead and Wyandanch. Suffolk County is adding three more health centres, two in the current year in Patchogue and Bay Shore and one in Coram by 1976.

iii) Health Care Professionals

The distribution of physicians in the bi-county area is geographically uneven. According to a 1974 survey, Nassau County has approximately one practising physician for every 716 residents, and the figure for Suffolk is one to 1,014. The national figure is one to 653.

	PHYSICIANS	DENTISTS	NURSES
Nassau County	2,828	1,403	9,095
Suffolk County	1,341	709	7,494
Total	4,169	2,112	16,589

A survey was conducted for the Nassau-Suffolk Region which reflected employment in allied health professions as of June 1970. In the occupations listed as the health industries, total employment was 16,010.

4. Co-ordination of the "Regional" Health Care System

In 1974, Federal law created the Health Systems Agencies. These agencies, operating at regional and State levels, will absorb the functions of the comprehensive planning, regional medical and hospital planning agencies. The HSA's have review and approval authority and a majority of "consumers" on their governing boards.

Although the HSAs are barely begun, they may resemble their predecessors. Similarities will probably include:

- relative ease of co-optation by sophisticated interest groups, including organised medicine and universities,
- an initial assertion of influence, followed by gradual disillusion and decline and staff domination of voluntary boards, as it becomes clear that there are few regional planning solutions to pressing health care problems,
- gradual erosion of review and approval authority over proposals for federal funds as co-optation, disillusion and the exercise of political muscle by interest groups demonstrate the inadequacy of planning as a surrogate for regulatory authority or social reform.

Regional health politics will continue to be subject to bargaining among less visible interests. Major influence in the next few years will be exerted by the "third parties" - Blue Cross, health insurers, committees of the Federal and State legislatures - using reimbursement as a tool to reduce the costs and improve the quality of health care.

5. Use of "Regional" Health Care Centres as Education Centres - The Role of "Regional" Practitioners as Teachers

The above discussion suggests how the Schools of the Health Sciences Centres relate to nearby health institutions. Each Dean and his or her faculty determine the settings which are appropriate for a School's educational programmes. Contractual arrangements are entered into on behalf of the State with nearby institutions at the request of a Dean. Each School has offered faculty appointments to professionals whose primary responsibilities are in these institutions. These faculty members have titles and duties which reflect the traditions and aspirations of particular professions and the politics of education and practice in each discipline.

The clinical campuses, established in the earliest years of the Center's development, are partial exceptions to these generalizations. These four campuses are a major voluntary hospital, the only county hospital in the region, a Federal Veterans' Administration facility, and a large scientific research complex. Each of these institutions has designated one member of its staff, with the concurrence of the University, as Clinical Campus Dean, to co-ordinate the relationship with the Schools of the Health Sciences Center. The main tasks of this co-ordination are facilitating the planning and scheduling of teaching at the clinical campus and managing the details of appointing professionals at the clinical campuses to the faculties of the Schools.

Delay in the completion of the University Hospital (now scheduled for 1978) has forced considerable reliance on the clinical campuses and other affiliated institutions for clinical teaching sites. This dependency has produced many benefits, but also numerous strains.

Faculty appointments have been granted to several hundred physicians, dentists, nurses, social workers and members of various allied health professions. Physicians, by far the largest number of voluntary appointees, are also the group most sensitive to invidious titles. Appointments of voluntary faculty are recommended by peer committees in each Department and School to the Dean, who recommends action to the Vice-President. The President offers these appointments, as he does for all faculty. The intensity with which voluntary appointments are scrutinized diminishes at each hierarchical level.

The intense concern of voluntary faculty about their rank, title and privileges has diminished each year as has, more important, their enthusiasm for teaching. Organisers of clinical curricula report increasing difficulty in persuading unpaid faculty members to sacrifice time from practice and recreation to provide instruction. Service on academic committees, requiring considerable travel and offering few satisfactions, becomes more trying each year. Complaints become louder that students are an imposition on staff and patients of affiliated institutions. Contributing to diminished enthusiasm in the realization by many voluntary faculty members that teaching and participation in related academic work require new skills. Students have frequently made this point without concern for tender egos. Full-time University faculty have been more diplomatic but insistent that they are accountable to colleagues, the Dean and accreditors for the quality of academic programmes.

IV. Integration of the Health Education and Health Care Systems on a "Regional" Basis

1. Administrative Structure

As the Health Sciences Center develops, exchanges occur which result in more elaborate links between the University and individuals and institutions in the region. Examples of these exchanges are:

- faculty appointments (usually unsalaried) for many physicians and other health professionals in the region, in exchange for their participation in University teaching programmes, especially at the hospitals and other institutions at which they practice;

- residency programmes which are sponsored by the University house staff rotate among several institutions, having access to a variety of training experiences, and providing the hospitals with more desirable residents and better patient care,
- university participation in search committees for service chiefs and key executives at major local hospitals; local membership on major search committees at the Health Sciences Center;
- full-time University faculty serve as either staff or consultants to a number of key hospital services in exchange for teaching patients and, more important, the development of referral relationships which will populate University Hospital;
- the chiefs of Obstetrics and Gynecology at two clinical campuses are interim co-chairmen of a department in the School of Medicine, in exchange for salary reimbursement to the hospitals and the development of close relationships with university-based faculty;
- regional service consortia, begun by the University Departments of Medicine and Surgery, prevent costly duplication of programmes and encourage high standards of quality;
- university funds have supplemented salaries of full-time academic physicians at the Veterans Administration Hospital clinical campus and have offset the personnel costs of participation in teaching at two other campuses.

2. Participation of the Health Sciences Center at Stony Brook

i) In the analysis of the needs of health personnel and the satisfaction of these needs

It is not clear what role a University Health Sciences Center can realistically have in meeting these needs. Universities reflect social concern and social policy, occasionally they may help to articulate concern and policy. But University programmes reflect analysis of manpower needs and professional deficits made in the past. Thus, the number, variety and size of the Schools at Stony Brook were derived from a report by a panel of distinguished experts prepared in 1964 using data gathered in 1960. Our present curriculum and enrollment are the result of plans made from 1966 to 1970 to implement that 1964 report.

ii) In the analysis of the Needs of the Health Care infrastructure

Although the University as an institution is one of many interests in the sophisticated bargaining of planning and analysis, individual faculty members have used their expertise to assist and advocate a variety of views.

iii) In a Policy of Prevention

Individual departments of the Schools of the Center participate actively in prevention programmes which are the primary responsibility of other institutions in the region. These programmes include: pulmonary disease, emergency medical care and alcohol and drug abuse education.

iv) In a Definition of "Regional" Health Policy

Policy integration as a tool of social change has fewer advocates than it had a decade ago. The more that is comprehended the less practical action may be attempted. Regional master planning continues, but without apparent effects on such gnawing problems as unemployment, decaying mass transit, unproductive public services and price inflation, and the cluster of problems related to the cost and environmental effects of fossil fuels.

3. Research Policy of the Health Sciences Center at Stony Brook according to the above-mentioned Needs

The activities of the Health Sciences Center and its affiliates should offer many opportunities for investigation by experts in health services research. Early investment was made in faculty members distinguished in this field by the Schools of Medicine and Dental Medicine. One clinical campus appointed a full-time chief of community medicine who had an excellent reputation in research. For a variety of reasons, most of these early investments have not led to the development of sustained research programmes which are related to education and patient care. There is recent evidence, however, that the quantity and quality of this research is improving with work in progress in emergency services, ambulatory care and dental services.

V. Implementation of the Health Sciences Center at Stony Brook: Difficulties and Resistances

1. Economic and Financial Aspects

The complexity of the University and State budget process is in part to maximize central control of appropriations and expenditures. Two periods of major financial constraint (1970-1971, and the present) have caused delay, frustration and the reduction of aspiration. In 1975, for the first time, the University was required to reduce its base budget, eliminating or diminishing several programmes. Construction projects have been effected by fluctuations of the market in State bonds. Moreover, the amount of Federal dollars available nationally for health professions education and health research was sharply reduced at about the time the Center began to be eligible for major Federal grant programmes.

National, State and State University financial constraints are reflected at the local University campus. Since many services for the Health Sciences Center are provided by the University, some of the effects of the general reduction in expenditures for higher education have been felt by the Health Sciences, although they remain an area of growth in comparison with most other disciplines.

2. Psycho-Social Aspects, Changes in Attitudes

i) On the part of the Administration and Public Authorities

The Health Sciences Center has had a history of difficult relationships with senior University administrators. The difficulties centred on struggles for authority and control. Attitudes have not changed, but accommodation and tolerable stalemate has been achieved in many important areas. The Health Sciences Schools have gained and maintained effective control over faculty appointments, curriculum, admissions and student academic standing. Many budget and personnel recommendations are, however, questioned or impeded by university administrators outside the Center. Arguments for the uniqueness of the health sciences too often are ignored, in part because the case for uniqueness is easily overstated. The attitudes that create difficulties include competing views of the purpose of universities and bureaucratic territoriality.

The sharp conflicts of the past did, however, lead to compromises which have given the Schools of the Center considerable autonomy in academic matters. The contentious issues of the present are, at least, not simply repetitious of the past.

ii) On the part of the teachers

There are, inevitably, almost as many views of the relative importance of various Health Sciences Center activities as there are faculty members. Most faculty graciously concede the right to innovate to anyone who does not compete for resources or teaching time.

Faculties tend to accept only in theory the concept that important parts of professional curricula should be taught by experts outside the profession. Resistance appears when proposals to assign responsibility outside the professional group are addressed. Although there has been notable success in providing basic science instruction across school and professional lines, duplication and unacceptable variations in quality remain in clinical instruction, and in social science, health services and public health curricula.

Similarly, many faculty members believe that research productivity is the only significant criterion for promotion and tenure in academic institutions. The attitudes of most of those who reject or do not value highly enough criteria which measure excellence in clinical, service and teaching activities have not changed appreciably. The faculty review process has been organised to enable a wide range of views to be heard.

iii) On the part of students

Students are intolerant of the problems of developing a new institution. Many are anxious and angry about faculty teaching and incomplete faculties. People at the beginning of their professional careers are particularly sensitive to gaps between promise and performance. Academic life was particularly harsh for the first classes in each school.

As students receive degrees, those still in school feel more comfortable about the adequacy of their education. In addition, as the problems of creating new curricula with faculty members unaccustomed to working together are resolved, the students have less cause for anxiety and frustration.

iv) On the part of Health Care Teams

Difficulties caused by resistance to teams have not yet become major issues. Occasional problems at clinical campuses and affiliated hospitals have been caused by implicit or explicit questioning of the omnicompetence of physicians by other health professionals. These problems will become more intense as University Hospital begins to function and external pressures for efficiency and economy in the delivery of care force reconsideration of accepted relationships.

v) On the part of the population

The Health Sciences Center received considerable favourable publicity in its early years. This publicity diminished when it became clear that there would be many delays - a decade for some proposals - in moving from rhetoric to reality. As University Hospital prepares to open, it will be necessary to engage in carefully planned publicity and community education to inform citizens about what they can and cannot expect from the Health Sciences Center.

Citizens will continue to have competing or ambivalent views about the Center as a focus of aspirations for students, as an employer, as a disrupter of housing and transportation patterns, as a creator of solid and liquid waste.

The general problems of health care in the region and the nation will inevitably make the Health Sciences Center a focus of both opportunity and controversy in the future.

ANNEXES

Annex 1

CONFERENCE ON THE REGIONAL HEALTH UNIVERSITY
PARIS, 15th-18th DECEMBER, 1975

AGENDA

Monday, 15th December, 1975

Plenary Session

THE INTEGRATION OF HIGHER EDUCATIONAL INSTITUTIONS WITH THEIR SOCIAL, ECONOMIC AND CULTURAL ENVIRONMENT

Chairman: B. Schwartz, France

3. 00 p. m. -3. 30 p. m.	Opening Addresses - J. R. Gass, Director of CERI - J. L. Quermonne, General Director of Higher Education and Research, France
3. 30 p. m. -4. 15 p. m.	Presentation of issues - G. Berger, Professor, University of Paris VIII, France - A. M. Baeten, Mayor of Maastricht, The Netherlands
4. 15 p. m. -5. 15 p. m.	Panel Discussion - J. Evans, Canada - A. Briggs, United Kingdom - L. Sandgren, Sweden - E. D. Pellegrino, United States
5. 45 p. m. -6. 30 p. m.	General Discussion
6. 30 p. m. -7. 00 p. m.	Synthesis and Conclusions by the Chairman

Tuesday, 16th December, 1975

Plenary Session

THE AMBIGUITIES OF THE HEALTH CONCEPT IN INDUSTRIALIZED SOCIETIES

Chairman: J. Evans, Canada

9. 15 a. m. -10. 15 a. m.	Presentation of issues - P. Cornillot, Professor, Dean of the Experimental Faculty of Medicine and Human Biology, University of Paris XIII - F. Basaglia, Director of the Psychiatric Hospital of Trieste, Italy
10. 45 a. m. -11. 45 a. m.	Panel Discussion - B. Rexed, Sweden - A. L. Cochrane, United Kingdom † J. Tremolières , France - M. Prywes, Israel
11. 45 a. m. -12. 30 a. m.	General Discussion
12. 30 a. m. -12. 45 a. m.	Synthesis and Conclusions by the Chairman

SOME EXPERIMENTS OF HEALTH EDUCATION IN THE CONTEXT OF REGIONAL HEALTH CARE

Chairman: H. Pauli, Switzerland

2. 30 p. m. - 6. 00 p. m.	Presentation of the Experiments - The Faculty of Health Sciences, McMaster University, Canada: J. F. Mustard, Dean - The University of Kuopio, Finland: O. Hänninen, Vice-Rector - The Experimental Unit of Teaching and Research in Medicine of Bobigny, University of Paris XIII, France: P. Cornillot, Dean - The University Centre for Health Sciences, The Ben Gurion University of the Negev, Israel: M. Prywes, Dean - The Faculty of Medicine at Maastricht, State University of Limburg, The Netherlands: H. A. Tiddens, Dean - The Faculty of Medicine at Tromsø, Norway: A. Nordøy, Dean

- University of Hacettepe, Turkey: D. Karan, Dean
- The University of Southampton Medical School, University of Southampton, United Kingdom: E. D. Acheson, Dean
- The Health Sciences Center at Stony Brook, State University of New York at Stony Brook, United States: D. Fox, Vice-President for Health Sciences
- The University of Cincinnati Medical Centre, United States: S. Troup, Dean.

Wednesday, 17th December, 1975

Plenary Session

THE REGIONAL HEALTH UNIVERSITY: A MODEL OF INTEGRATION OF HEALTH CARE SYSTEMS AND EDUCATIONAL SYSTEMS

Chairman: A. Briggs, United Kingdom

9. 30 a. m. - 11. 00 a. m. Presentation of models
- E. Pellegrino, Chairman of the Board of Directors, Yale-New Haven Medical Center, United States
- P. Cornillot, Dean of the Experimental Faculty of Medicine of Bobigny, University of Paris XIII, France

11. 30 a. m. - 12. 30 a. m. General Discussion

2. 30 p. m. - 5. 00 p. m. Four Working Groups on the common theme:

THE REGIONAL HEALTH UNIVERSITY (RHU)

- Analysis of the health care demand and the response in terms of education of the health professions
- Co-ordination of education of the medical and allied health professions (short cycles and long cycles). Training of the health care teams
- Role of the RHU in the functioning of health care systems: distribution of health care services, co-ordination of health care structures, health care teams...

Thursday, 18th December, 1975

Plenary Session

Chairman: B. Rexed, Sweden

9. 15 a. m. - 11. 15 a. m.	Continuation of the four Working Groups on the common theme: THE REGIONAL HEALTH UNIVERSITY (RHU) - Role of the RHU in the analysis of health needs, medico-social research, epidemiological and operational research in Public Health - Role of the RHU in the field of prevention and health education - Contribution of the RHU to the creation of a regional health policy
11. 45 a. m. - 12. 45 a. m.	Reports of the four Working Groups of Wednesday, 17th December Address by Madame Simone Veil, Minister of Public Health, France
2. 30 p. m. - 3. 30 p. m.	Consultation for interested participants with those responsible for experiments in health education in the context of regional health care
3. 30 p. m. - 4. 30 p. m.	Reports of the four Working Groups of Thursday, 18th December
4. 30 p. m. - 5. 15 p. m.	Adoption of Final Recommendations and closing of the Conference.

Annex 2

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New Directions in Education for Changing Health Care Systems
CERI/OECD, Paris, 1975

Patterns of Health Care and Education in Sweden
by A. Tengstam
CERI/OECD, Paris, 1975

Organisation for Change: The British National Health Service
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by G. McLachlan
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Education of the Health Professions in the Context of the Health Care System: The Ontario Experience
by K. C. Charron
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2. Mimeographed documents

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CERI/HE/CP/72. 02	The University of Health: Conditions Affecting Implementation in the United States by P. Regan and W. Stafford
CERI/HE/CP/72. 03	Education of Allied Health Personnel: Health University without Walls by D. A. Meek

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CERI/HE/CP/73. 08	Report on the meeting of Experts on the Concept of an Interdisciplinary University of Health, 5-6-7 April, 1973
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